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JUNE 2001 NO. 58

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Jodie
world traveler

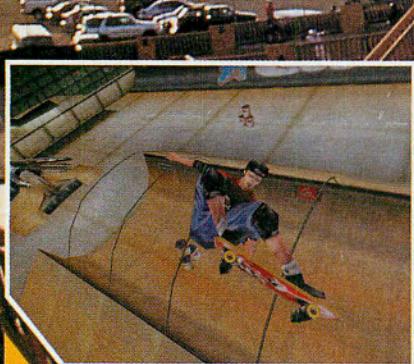
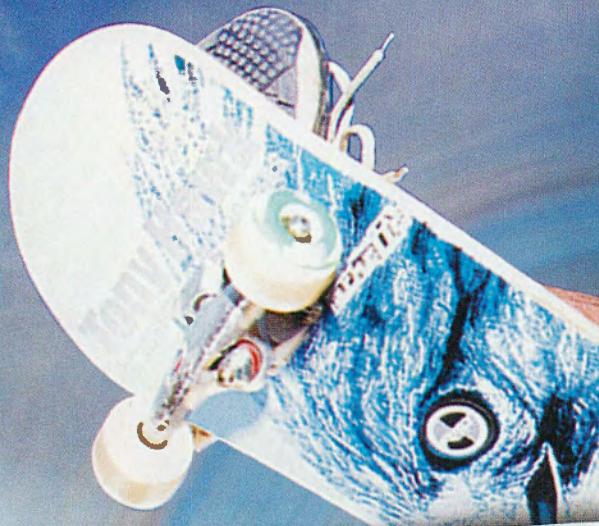
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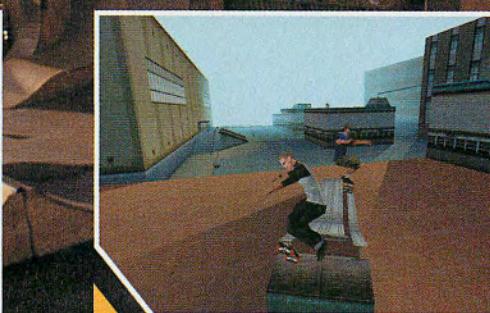
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MacAddict

A better machine. A better magazine.

highlights

24 Brave New World

It's been a long time coming, but the final version of Mac OS X has finally arrived, and it definitely ain't your father's OS. Fortunately for you, we've spent days, nights, and weekends putting this puppy through the paces and have amassed tips and secrets galore. Here we give you the lowdown on how to tame and get the most out of this strange new beast.

by Rik Myslewski, Ian Sammis, and the Rest of the *MacAddict* Staff



X files aren't just for sci-fi nuts anymore.

36 A Fistful of FileMaker

FileMaker. Yawn. Snooze. Well, wake up! We tell you how to create a super-cool card game using nothing but databases and a little brainpower. by Ian Sammis

Frankly my dear, I don't give a damn. Now go fish!



This overusage is a little alarming. (Original photo courtesy of Corbis.)

how to

66 How to Get More Mileage from Times

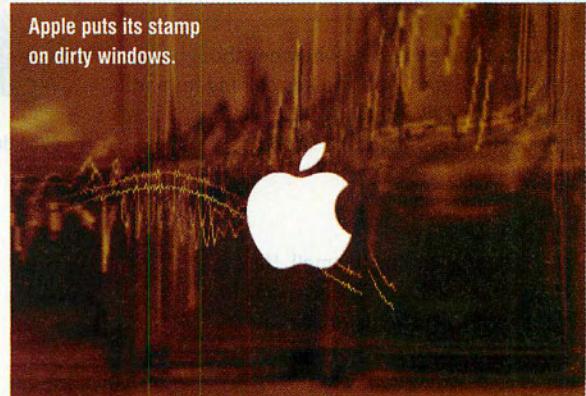
If you've managed to avoid having a font menu that takes six minutes to load, you might be feeling a little constrained by the usual handful of fonts. Here's how to stretch, squash, and squeeze Times to make the little serif-bearer go above and beyond the call of duty. by Ian Sammis



How Times have changed!

70 How to Crank Up the iTunes

Apple's band of musically-inclined engineers has pumped out another piece of brightly colored eye candy. Don't be a stranger—here's how to take it and set them up the funk bomb. What you say? by Jonathan Clayton



Apple puts its stamp on dirty windows.

REPRINTS

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Volume 6, Issue 6

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Breaking the law is easy to do when it comes to DVDs. Eight Mac OS X Quick Tips. Experts tell us how to compress better Web video. The public tells us which iMac colors sell and which ones suck. Cassettes come back. Ian operates OS X from an old serial terminal. And where in the world are former Metacreations products?

22 Scrapbook

We dissect DVD without spilling a drop of blood. Don't worry—the way these things work is actually pretty interesting.

44 Reviews

We put two of Apple's latest G4 towers to the test to find out if we should heap praise or boo and taunt until our throats are sore. Plus, we cast a jaundiced eye toward Expression 2, Amorphium Pro, Toast 5, Photoshop Elements, Dscribe 4.0, Nisus Writer 6, and others.

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74 Ask Us

Ew—that server's starting to smell. Here's how to take the trash out. We also look into the PC100 vs. PC133 confusion, deflate some excessive DV optimism, and tell you how to use AirPort with old PowerBooks.

96 Shut Down

Apple Legal's latest plan to rule the cosmos.

Harry, I can see right through you.

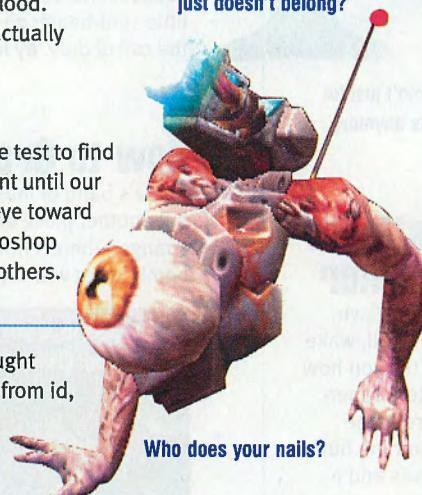
Hello? Anybody here? Who are you? And why are you leaving the office? Oh, hello again! Baby talk. Baby talk. Pee-wee's back, old friends are gone.



For the kid who has too much...



Which one of these "people" just doesn't belong?



Who does your nails?



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MANAGING EDITOR Jenifer Morgan

SENIOR EDITORS Cathy Lu (features), Ian Sammis (technology)

NEWS EDITOR Narasu Rebhapragada

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ART

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ART DICTATOR Christopher Imlay

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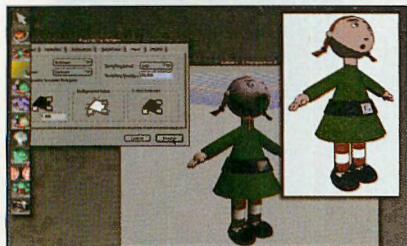
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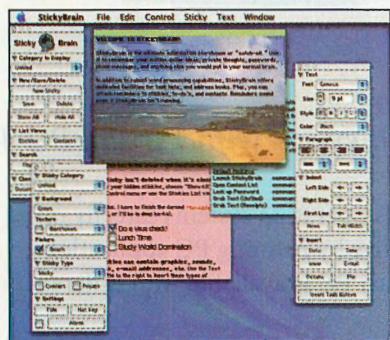
The Future of the Mac Starts Here



Hmm...that doesn't look FDA-approved to me!



Helga kept reliving her *Nightmare Before Christmas* heyday.



Dear John, by the time you read this sticky, I will be far, far away...



Teach an old dog new tricks and it'll keep coming back for more.

It's a Brand-New Era—The Disc In June



Photoshop Elements Tryout

We all know that Adobe's Photoshop is the must-have graphics application for the Mac. Unfortunately, for many people its price tag is hard to swallow. But its new baby sister, Photoshop Elements, harnesses much of Photoshop's horsepower—for a lot less money (\$99 vs. \$609)! This new light version of Photoshop lets you work with layers, autocorrect images, remove red-eye, fix poorly exposed pictures, and a whole lot more—without cumbersome tools, and with an easy-to-use interface that appeals to both the novice and the pro user.



Amorphium Pro Demo

It's a new paradigm in 3D modeling—simplicity and intuitiveness (what a concept!). Using Amorphium's tool set is like working with your fingers on a 3D object. Push and pull to you heart's delight. Paint directly on your models in fully interactive 3D. And when you're done having fun making your models, export them into animated GIFs, QuickTime movies, or Flash (SWF) files for the Web. Check out the program they used to make the movie *Austin Powers II*.



StickyBrain

Are you one of those busybodies who swears by Apple's Stickies application? In Mac OS X, Apple improved the Stickies functionality, but it's still...well, pretty basic. StickyBrain fills in the holes with a Stickies-style application that's more than just a square of text slapped on your screen. You get categories, JPEG backgrounds, alarms, a spelling checker, and to-do buttons. In fact, it's powerful enough to be your complete personal information manager! Check out the Carbon-ready demo on The Disc!



Marathon: Rubicon

Gather round, all you veteran Mac gamers. It's time to hunker down in front of your monitor and play a whole new Marathon scenario. Four years in the making, Rubicon breaks new ground in custom map-building by incorporating a nonlinear plotline with different endings, over 360 original textures, and much more. It's like having a whole new game—especially for those people who have never played Marathon. As a plus, you don't need Marathon to run the scenario, and you don't have to pay a cent—because it's free!

Wow, there have been some serious changes at MacAddict this month. David Ross, our beloved art director, is taking off to Japan and Chris Imlay has been promoted to fill his shoes. Leslie Brown, previously with digitalFOTO, has

joined the staff as associate art director. Kris Fong is back as reviews editor—which means she doesn't have control over the video camera like she used to! David Reynolds takes a few weeks off to become a daddy! All that and Mac OS X, too? What a month! Congratulations to everyone!



Bonus!

Every month we'll have bonus materials on The Disc for you to check out.

This Month:

June Nitrozac comics and Mac OS X icons, An Introduction to FTP and Mac Scripters Magazine issue 4, both by Bert Altenburg, and the exclusive "Best of Mac Show Live" with interview highlights from www.macshowlive.com.



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editor's note

Mac OS X is here. So now what?

After 17 years of listening to our beloved Mac OS groan under its own weight, like a Planet Hollywood built on Louisiana swampland, the end is near: Mac OS X has arrived.

This new operating system is *chips*, as my old college roommate used to say. Mac OS X is beautiful on so many levels. It's responsive. It's stable. It has killer networking. Its backward compatibility is astounding, and Aqua is an aesthetic triumph. Yes, Mac OS X is a technological marvel, far outstripping any of its hole-riddled competitors, and at last I can say that with a straight face.

But really, so what?

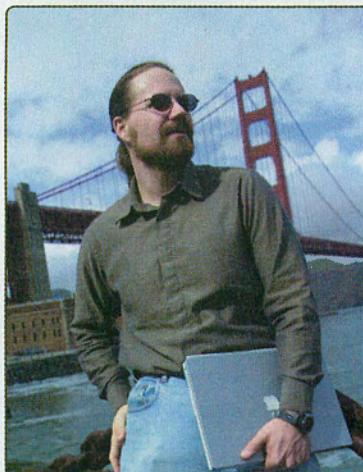
Folks want to know what they can actually *do* with Mac OS X, not how many buzzwords it complies with. You can do anything in Mac OS X that you can do in Mac OS 9, and a whole lot more. There's a big caveat, however—and that's the Classic compatibility layer.

Mac OS X may be here and it may be mighty, but none of that matters until Mac OS X-native programs arrive, whether they are modified Mac OS 9 apps or written from the ground up to work on Mac OS X. That's because Classic doesn't cut it when it comes to day-to-day use.

I don't mean to disrespect Classic or its developers. The Mac OS 9 Classic compatibility layer is an astonishing feat that rivals the technical prowess exhibited by the pointy-headed aliens who built the pyramids and the Eiffel Tower. Classic lets you run just about any program that ran on Mac OS 9 and earlier, provided that the app doesn't try to touch hardware. And performance-wise, the apps do pretty well.

Despite this, Classic must die, and the sooner the better. Although Apple did its best to integrate the two operating systems, it's still clear that these are two *vastly* different OSs. Users want to have one mode of working, and Classic isn't it.

I've used Mac OS X as my primary OS for the past couple of weeks, and I find myself ditching Classic applications in favor of *anything* Mac OS X native that'll do the same job. For example, I've switched from writing in Microsoft Word to writing in AppleWorks 6.1, simply because AppleWorks is a Carbon app. The same goes for email and Web browsing—I'm using Mail.app instead of Entourage and



They told me the Golden Gate Bridge was around here somewhere...

OmniWeb in place of Internet Explorer and Netscape Communicator. Right now, I venture into Classic only for photo editing, and that's because I can't stand to leave Photoshop behind.

I hate starting up Classic. It takes a long while to launch and seems to be the source of most of the glitches I experience in Mac OS X. So I save my Classic tasks for the end of the day, when I spark up the ol' compatibility layer and get it all done. Then I quit Classic and go back to Mac OS X, where things are soft and beautiful.

As Apple learned when it first launched the Mac in 1984 and again with the PowerPC transition in the early nineties, it's the apps, stupid. Without native programs, no one will use the operating system—and that's what spelled the end of Rhapsody, Mac OS X's precursor. With Mac OS X, Apple has managed to get the major players onboard *before* launching. Adobe, Macromedia, Microsoft, Quark—the list of must-be-there developers is solid. But while some recognizable names have already made it to Mac OS X (Eudora, Macromedia's FreeHand, Microsoft Internet Explorer), the rest of the bunch—commonly used software like Microsoft Word and Excel, Adobe Photoshop, and QuarkXPress—is lagging behind. So we're stuck for the moment with Classic versions that work, but not gracefully.

Here's my advice if you're trying to decide whether to get Mac OS X. If you can get Carbon versions of the software you use on a daily basis—and I mean *all* of it, including hardware drivers—go for it. If not, make your life easier—wait until that software arrives.—*David Reynolds*

Staff Rants

Narasu Rebbapragada

The Pitbull of News Editors

Q. *What Roman numeral would you assign to Apple's new operating system?*

A. I would assign it an XL, to symbolize how much stuff is packed into it.



Q. *What have you shipped that wasn't quite done?*

A. A sweater I made for my sister. I didn't finish it in time for her birthday, so I shipped it without any arms. It kind of looked like a tube top. Come to think of it, she never did wear it.

Kris Fong

The Warm, Fuzzy, and Illegal-in-California Associate Editor

Q. *What Roman numeral would you assign to Apple's new operating system?*



A. How about M for might work?

Q. *What have you shipped that wasn't quite done?*

A. This staff ra...

Cathy Lu

The I'm Not Fat, Just Furry Features Editor



Q. *What Roman numeral would you assign to Apple's new operating system?*

A. I'd give it an L, because it feels like it's been 50 years since Apple promised us a new operating system.

Q. *What have you shipped that wasn't quite done?*

A. I once shipped my cat across the country from Newark, New Jersey, to San Francisco, even though she wasn't quite done scratching my skin off while I was trying to get her into the cage.

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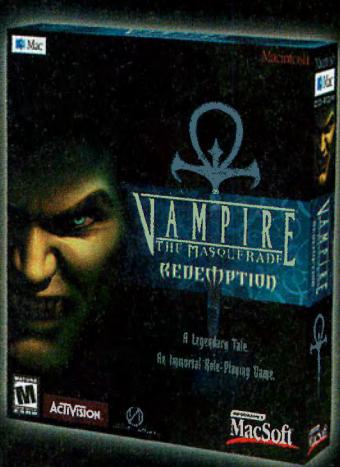
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ONLY IN OUR DREAMS

Will Mac OS X be on The Disc?

—William Haire.

Apple Computer will let us put Mac OS X on The Disc about the same time that pigs fly and turtles tap-dance.—Ed.

NO WAY

I am still chuckling at the "MacTiques Road Show" video (The Disc, Apr/01). I really want that Power Computing T-shirt. Can you please send it to me?—Ben Greisler

Recently Sighted



At the 2001 Macworld Expo Tokyo, this Mac fan made a backpack out of a genuine Blueberry iMac. (Photograph sent by Spike Kapauan.)



The eensy-weensy spider crawled up the slot-loading drive. (Photograph sent by Marc Bravo.)



ILLUSTRATION BY DAVID ROSS

Anything's possible
with a good illustrator.

A BAD EGG

Narasu Rebbapragada's article on drawing a vector-art Easter egg (Apr/01, p66) is atrocious and misleading. Why do you always use Adobe Illustrator for your vector art examples? Macromedia's FreeHand, with its fisheye lens tool, would have been a far better choice. Please do us all a favor: Hold Rebbapragada upside down and shake vigorously until something better fills her cranium.—Fergus B.

Yes, FreeHand's fisheye lens tool would accomplish a 3D circular effect. Since this time-saving tool is specific to Macromedia's FreeHand, we opted to do a tutorial whose vector drawing lessons were generally applicable to other programs. It's not our intention to be Illustrator-centric, though. We'll try to vary the tools.—Ed.

FUND YOUR OWN SCREEN TEST

I'm guessing the article titled "Shoot Your Own Screen Test" (Apr/01, p40) is the April Fool's joke of the issue. Let's say someone wanted to try this exercise in nepotism and public techo-masturbation. He or she would need: one FireWire DV camera, \$799; one tripod, \$30; one 466MHz G4, \$1,699; one "second Mac for dialogue looping" (say, an iMac), \$899; Final Cut Pro, \$999; After Effects, \$649; Final Effects Complete, \$795;

and a sound software package, \$25. Total cost: approximately \$5,895. How many of your readers do you think will actually benefit from this ridiculous article?

—W. Raider

We run a wide range of articles appealing to a wide variety of Mac enthusiasts. And yes, some of them have money to burn.—Ed.

EXTENDING AN OLIVE BRANCH...JUST THIS ONCE

Why are all my submissions to *MacAddict* ignored? My Wild Eep Web contest submission kicked butt and my iMac design was pretty cool. I don't care if I win or not—but at least acknowledge the effort.

—Eric Olive

WEALTHY JOURNALIST? WHERE?

I just read your review of TurboTax vs. TaxCut (Reviews, Apr/01, p48). I agree wholeheartedly with the review of the software, but you left out a big plus for TurboTax Online. Intuit doesn't charge you if you make less than a certain amount (this year it was \$25,000). That might not be much help to you wealthy journalist types, but it's nice for us young upstarts who don't want to buy the program but also are too lazy to fill out the forms.—T. Greg Doucette

TRUE GEEK SPEAK

That was pretty brave (or ignorant) of you to mention Rogue (*Get Info*, Apr/01, p20) without talking about NetHack (free at www.nethack.org). NetHack, for the uninitiated, is Rogue's greatest incarnation. It is (in my humble opinion) not only one of the most complex, creative, immersive, multilayered, and difficult games I've ever seen, but also among the best games ever.

—Drew Levitt

Go away before I sic my d on you.—Ed.

DON'T DRIVE ANGRY

I bought the game 4x4 Evolution and the Thrustmaster Pro Digital 2 steering wheel on the basis of your review (Mar/01, p54). I have had absolutely no success in getting the wheel to work with this game, although the same wheel works just fine with Driver.

—Robert Shomer

We've received a lot of letters about this. We were able to make the wheel work properly by opening 4x4 Evolution's Options screen, choosing the wheel as an input device, and then configuring each of the device's axes in the same Options area. You shouldn't need USB Overdrive (or other third-party drivers).—Ed.

CAN'T BEAT THE REAL THING

I wanted to thank you for what some people might call a gratuitous display of a Powerade bottle in your article "Shoot Your Own Screen Test" (April/01, p40). I wanted to let you know that Coca-Cola (producer of Powerade) uses Macs to produce all the packaging graphics you see on your local grocery shelves—and has since about 1992.—Rick Ralston, packaging production coordinator, Coca-Cola Company

DON'T RUNE OUR REVIEW

Ian, how could you dislike Rune (*Reviews*, Apr/01, p54)? Unless you were angered that they didn't give you Oni to review, and you took out your angst on Rune. Over the years *MacAddict* has always complained that there are so few action titles for the Mac. If in the future I have to wade through crappy titles like Baby Ewok and Bingo, I'll blame you.—Shawn

COMPRESSION CONFESSIONS

As a budding iMovie maker, I am curious about which codec you use to make the staff video.—Lee Cohen

We use Media100's Cleaner 5 to compress the movie. For video, we use the basic Sorenson codec included with QuickTime Pro. For audio, we use the MP3 codec in Cleaner 5.—Ed.

Readers Say: "Thanks" and "No Thanks"

Our April 2001 cover feature "10 Things You Don't Know How to Do (and Probably Shouldn't)" proved controversial, eliciting a variety of heated responses.

DON'T TRY THIS AT SCHOOL

Among other duties, I run our LAN at my boarding school. I have 200 student users in grades six through nine, many of whom subscribe to *MacAddict*. I just can't wait for them to use the April Fool's jokes here at school. Thanks for all the extra work, headaches, loss of computer time, and possible student expulsions for hacking passwords. Don't do me any more favors in the near future.—Randolph Alan Macdonald

TOO LATE

I saw several of my classmates reading my school's subscription to *MacAddict* magazine. Little did I know what they were doing until I got home and opened up my copy. The next day, all the computers were shut down because they had used the scam password (p29) to access our school's database. They screwed up everything, down to the wallpaper. How am I going to get my research paper done? Plus, my new club, MAC (Mac Addict Counseling), has been put on hold due to this unfortunate event.—A flustered *Mac addict*

10 WAYS TO GET IN A LOT OF TROUBLE

I strongly advise against forging email headers by abusing an open SMTP server. If it's not an anonymous server, a recipient who knows how can read the email header and find out where it originated, then file a complaint with the abused mail server's ISP and the sender's ISP. There is also a possibility the abused mail server's ISP can sue the sender for trespassing. I am sure

you have more than a few readers who operate unsecured mail servers and who found this article upsetting.—James Harvey

MAC MASTER HACKS FASTER

Thirty seconds after reading your "10 Things You Don't Know How to Do" article, I rearranged my motherboard jumpers to turn my 350MHz Yosemite G3 into a 400MHz machine! The Apple System Profiler shows it at 400MHz, and I'm just in awe. I was about to order up a Sonnet 500, but now I think I'll spend my dough on a Radeon graphics card. Thanks, *MacAddict*.—Andrew McVinnie

GO AHEAD, PUNK, MAKE OUR DAY

I know you're probably getting a ton of email from people upset about your methods for cracking timed-out demos, finding alternatives to Napster, and the other April Fools' jokes, but I just wanted to say I love it. The April issue is the best one I've read yet. I love how you guys keep thumbing your nose at authority. Keep up the good work, and keep on showing us how to pirate.—James Ferguson

TELL US SOMETHING YOU DON'T KNOW

The article was interesting and I enjoyed it, but here's my problem: I knew a full half (five) of the things outlined in the article. You promised me I would learn ten new things! I have been denied the advertised amount of new information. I demand that you give me five new things I don't know how to do, or I will have to press charges.—Uber C. Hacke

You Know You're a Mac Addict When

...you wish the ice cube button on your refrigerator dispatched 8-inch supercomputers.—Jonathan Clayton

...you meet your future spouse at an Apple user group meeting and plan to go to Cupertino on your honeymoon.—Lisa Huston

...while watching a porn movie, you check to see if the computer in the background is a Macintosh.—Scott Brion

...you complain to the vending machine company because they're all out of the stuff in slots G3 and G4.—Daniel "El Pato" Cuatt

...you keep trying to find a way to get an alias of your fridge next to your computer desk.—Toby Orzano

...on your honeymoon in Ireland, you pay a visit to the Apple manufacturing facilities in County Cork (near Blarney).—Dr. and Mrs. Richard Nemanick



A SERIES OF SHORT FILMS FROM THESE ACCLAIMED DIRECTORS:

FILM 1

AMBUSH

DIRECTED BY JOHN FRANKENHEIMER

FILM 2

CHOSÉN

DIRECTED BY ANG LEE

FILM 3

THE FOLLOW

DIRECTED BY WONG KAR-WAI

FILM 4

STAR

DIRECTED BY GUY RITCHIE

FILM 5

POWDER KEG

DIRECTED BY ALEJANDRO GONZÁLEZ IÑÁRRITU

SPECIAL FEATURES DIRECTED BY BEN YOUNGER

EXECUTIVE PRODUCER: DAVID FINCHER

Only at bmwfilms.com
Premiering April 26.

LEGAL EAGLES

In the ad for Roxio's Toast 5 (Apr/01, p10), the fine print at the bottom says, "Our software is designed to assist you in reproducing material in which you own the copyright or have the legal right to copy from the copyright owner." And yet the image in the ad looks like it was scanned in from a book, and has a suspicious crop in the bottom-left corner. Just kind of had me wondering about the legality of Roxio's image use.—*Craig Dial*
We talked to Roxio's corporate communications manager, who assured us that Roxio buys the rights to all the images the company uses in its advertising.—Ed.

not cause any system crashes. Call Formac and ask about known compatibility issues and whether the company has issued any software updates.—Ed.

HEY, WAIT A MINUTE...

I just read your article on how to send a fake email to someone ("10 Things You Don't Know How to Do (and Probably Shouldn't)", Apr/01, p26), and I wanted to tell you there's a simpler way. Team2600.com has all the stuff to make your enemy's life a living hell, including fake email wrapped up in a nice GUI called Nailmail.—*David Reynolds*
For clarity's sake, we wanted to note that MacAddict editor in chief David Reynolds did not actually send this email. A joke. Get it?—Ed.

STICK TO THE SUBJECT, PLEASE

Are you in love? True love? Do you wake up in the morning and go to sleep at night thinking of your love? Does every love song you hear sound like it was written about your love?—*Ahmed Aldoujaily*

ONE MAN'S REASON IS ANOTHER MAN'S WRATH

Usually I find *MacAddict* reviews reliable—sometimes a bit nitpicky, but that's OK. So along comes your April issue, and that asinine icon you use gives a *Freakin' Awesome* rating to Propellerhead Software's Reason audio software (*Reviews*, p52). You make a special note exclaiming how great the interface looks with its virtual cables. Oh yes, just what every musician and recording engineer loves—a mess of wires and cables. Maybe your reviewer will have a virtual orgasm if a future version of Reason *tangles* the cables as well.—*John Voss*

PUKEWORTHY?

I was dismayed to see the Hollywood DV-Bridge featured in "Droolworthy" (*Get Info*, Apr/01, p21). I have the misfortune of owning one. Not only is the video quality marginal, but the technical support is horrendous. It will be hard for me to believe in your journalistic credibility in the future.—*Mary Kennedy*
In "Droolworthy," we bring you news of interesting new products and technologies when we first hear of them. It's in the Reviews section that we report our findings after rigorously testing products.—Ed.

YOU'RE SCARING US

I was totally inspired by the cover of the April issue. I felt a deep connection with that crazed guy—he reminded me of the hours that would creep by well into the night as I sat in the dark with only the warm glow of my iMac lighting my room. So with a little artistic tweaking, I created my new startup screen.—*Andy Alexander*

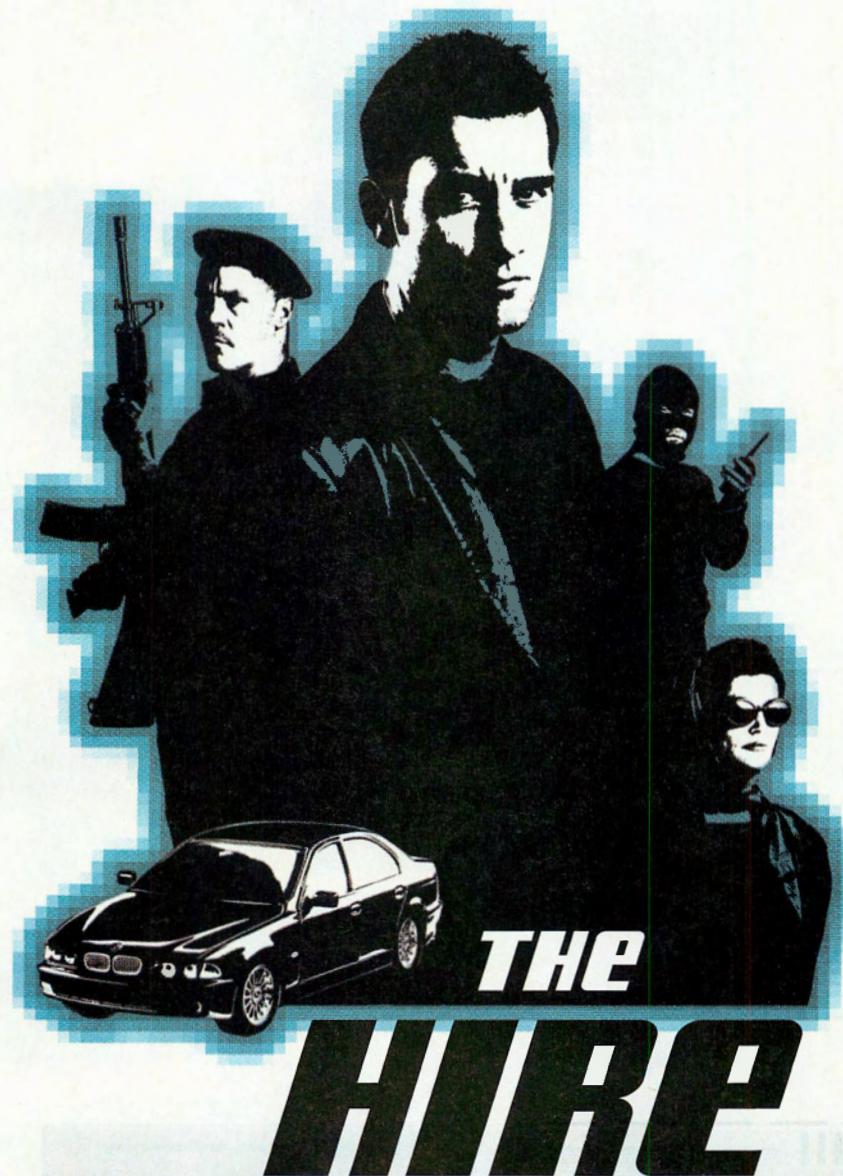


THE SWISS FAMILY MAGAZINE

What font do you use in your magazine? It looks so familiar, but I can't put my finger on just what it is.—*James Flach*
We set our body text in Meta and our headlines in Swiss.—Ed.

DEBATING THE RATING

I took the plunge and purchased ProTV Stereo based upon the *Freakin' Awesome* rating you gave it (*Reviews*, Feb/01, p56). Sad to say, it appears this product is anything *but*. It crashed repeatedly on my G4/350 with 320MB of RAM running Mac OS 9.1, bringing the system down with it. Did you folks have a rare good experience with setup? In my opinion, this dog deserves a *Blech* at best.—*Julian C. Westerhout*
ProTV performed very well for us and did



'AMBUSH' DIRECTED BY JOHN FRANKENHEIMER / 'CHOSEN' DIRECTED BY ANG LEE / 'THE FOLLOW' DIRECTED BY WONG KAR-WAI

'STAR' DIRECTED BY GUY RITCHIE / 'POWDER KEG' DIRECTED BY ALEJANDRO GONZÁLEZ IÑÁRRITU

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the Australian High

Choose Your Own DVDs With This Black Tie Fas

PowerBook G4

sure DVD will set you in more trouble than it's worth — at
least until you get to the end of the road.

20 x 1024

©2001 Apple Computer, Inc. All rights reserved. Weight varies by configuration. Battery life varies by use and configuration. Titanium case.

get info

Bite-size info in a pretty package.

The Accidental Pirate

Copying Your Own DVDs May Break the Law

You always pay shareware fees, you register software, and you never jaywalk. But recently you bought a foreign DVD that just won't play on your U.S.-made commercial DVD player (see "Regional Skirmishes" below). So you pop the DVD in your G4/733's SuperDrive, use a freely downloadable utility to extract DVD video and audio to your hard drive, and finally get a chance to watch your movie. Congratulations—you may have broken the law.

This particular law is at the crux of a drawn-out legal dispute over whether this utility (DeCSS) is illegal under the Digital Millennium Copyright Act or protected as free speech under the First Amendment. In January 2000, the Motion Picture Association of America (MPAA) sued Eric Corley, editor of the hacker newsletter

Regional Skirmishes

So why won't that foreign DVD play at home? It has nothing to do with PAL or NTSC. It has to do with regional codes. DVD movies are coded by region so that movie studios can control where in the world their movies can be viewed. Similarly, hardware manufacturers encode DVD players for the regions where they are sold. In other words, the anime disc you bought in Japan—coded only for region 2—won't play on your region 1-coded SuperDrive. So look to see what region a DVD is coded for before you buy it. What's the code for your region?

Region 1: Canada, and the United States and its territories

Region 2: Japan, Europe, South Africa, and the Middle East

Region 3: Southeast and East Asia (including Hong Kong)

Region 4: Australia, New Zealand, Pacific Islands, Central America, Mexico, South America, and the Caribbean

Region 5: The former Soviet Union, the Indian subcontinent, Africa, North Korea, and Mongolia

Region 6: China

There's one legal escape hatch: The DVD license, administered by the DVD Copy Control Association, allows you to reset your SuperDrive's hardware code up to five times. Pioneer, the manufacturer of Apple's SuperDrive, warns you to do this sparingly and cautiously.



ILLUSTRATION BY MICHAEL DOUGAN

Buried treasure looks a little different these days.

2600, for distributing DeCSS from the 2600 Web site. U.S. District Court Judge Lewis Kaplan initially ruled for the MPAA. Corley appealed, and a judicial panel will hear final arguments in May 2001.

Many people think DVDs are like MP3s, where distribution is illegal but copying for the original buyer's personal use is fine. This isn't necessarily true. So what's the difference? A little thing called a *content security system* (CSS). Commercial DVD movies contain this fairly weak form of encryption, which a decryption utility like DeCSS can easily break. You can download a number of free DeCSS-style programs off the Internet. The current Mac-compatible option, DVDEtractor, separates a DVD's VOB (video object) files into their component video (MPEG 1 or MPEG 2) and audio (Dolby AC3, MPEG Layer II, or PCM) files. You can resync these in a video editor like Final Cut Pro, then export the project for viewing on your hard drive.

Chapter 12 of the Digital Millennium Copyright Act says any effort to circumvent a technology that protects copyright (in this case, CSS) violates the law. And it's illegal to distribute technology whose express purpose is to circumvent copyright protection—and according to the MPAA, DeCSS fits this bill. The organization has good reason for concern—it states that in the year 2000 authorities seized 1,941,304 pirated DVD discs containing MPAA members' movies; 98 percent of the pirates came from the Asia-Pacific region.

So is duplicating DVD content at home considered fair use or piracy? "That is the question before the court," said Robin Gross, staff attorney for the Electronic Frontier Foundation, which represents Eric Corley. Be aware of the issues, or that Japanese anime DVD might get you in more trouble than it's worth.—NR



OS X Tips

by Rik Myslinski

Pretty impressive how fast your PowerBook awakens from sleep, eh? Close to instantaneous, right? Well, that's only the *good* news. The not-so-good news is that power management during Mac OS X sleep is nowhere near as good as it was in Mac OS 9—you'll get noticeably shorter battery life.

Do you hear a lot less bass now that you're running OS X? Do you have an iSub? If so, crawl down on the floor and listen to it. You won't hear anything—the iSub doesn't work with OS X. Apple is looking into a fix. If you have the SoundSticks and iSub combo, however, the iSub works fine. Go figure.

Shooting High

Tips for High-Quality Streaming Video on the Web

Creating good-looking video for the Web is within your grasp, provided you take the right measures. We talked to Dan DiPaola, Sorenson Media's vice president of entertainment business development, who shared some top-secret advice from the company's experts.—CL

1 Shoot your main subject against a still background, such as a properly lit black sound stage. Since your codec has to handle all the moving objects in a video, you don't want it to work too hard on background movement and forego quality in the main action.

2 Light your subject well. An outdoor shaded area is optimal, providing well-dispersed light with neither shadow nor direct sun. For indoor shoots, flood the stage with light so your subject's body, clothes, and face are evenly illuminated.

3 The less motion, the better the video quality (sorry, no Jackie Chan-style movies). This also holds true for camera work. Keep your zooms as slow and steady as possible, and hold your camera arm straight out to minimize jitter.

4 Consider opening the movie with a plain, still-frame title card accompanied by music or narration. This sneaky little tactic immediately draws the audience into your movie while giving the video stream time to cache onto viewers' machines, averting annoying buffering delays.

5 Before encoding, try these tweaks in Media 100's Cleaner (www.media100.com):

a Encoding can darken your video 15 percent. To counter this problem, click the Adjust button (to bring up the Adjust panel) in the Advanced Settings window and raise the gamma with the slider.

b Encoding can also do funky things to color (sometimes making your reds redder, for example). To correct this problem, encode your movie, compare the before and after products, then go back to the uncompressed video to tweak hue and saturation in the Adjust panel.

c Crop out unnecessary parts of the video (click the Image button in the Advanced Settings window). Slicing some of that big blue sky off the top allows the rest of the video to encode at a higher quality.

d Bring out your subject by darkening shadows and heightening the overall contrast. In the Adjust panel, turn down the gamma setting to blacken the shadows and darken the video, and pump up the contrast to accentuate the subject.



A Web video no-no: people milling around behind your subject, noshing on snack food. You want a still background.

Which iMac Would You Buy?

MacAddict Hits the Streets to Find Out

It's unofficial: Patterned iMacs are kind of a bust.

How do we know? Since Apple protects its demographic research like a nuclear secret, we gathered our own statistics. In an extremely unscientific poll, we approached ten people in San Francisco's yuppie South of Market district and hippie Haight-Ashbury. We showed them pictures of the current line of iMacs, and asked which one they would buy. The results: seven votes for Graphite, two for Indigo, one for Flower Power.—CL

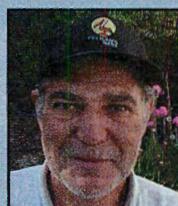


Yesenia Corona, 24

Which iMac would you buy?

The Graphite.

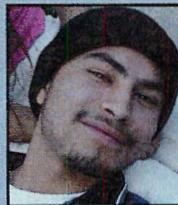
Why? It seems more like a computer.



William Findlay, 52

Which iMac would you buy? I think if I had kids, I would want the flower or spotted one because they're colorful. But I think if I really had to go for one, I'd go for Graphite.

Why? It looks more complicated and technical—what a man would actually have. Maybe I'm being chauvinistic.



Edwin Gonzalez, 19

Which iMac would you buy? I'd get the flowered one.

Why? Because my girl likes flowers.



Andrea Moore, 18

Which iMac would you buy? Indigo.

Why? The black one kind of bores me. The flowers are too hippie-like. And the spots...I don't know. I just don't like that one.

Kernel panic Add a new term to your vocabulary of doom: *kernel panic*. That's the crash that happens when OS X's kernel—the id of its Unix identity—gets thoroughly confused. Arcane white-text error messages appear over whatever your Mac last displayed. Carefully write down everything you see, then call AppleCare. Oh, and reboot.

Classic Applications designed for video capture don't work in the Classic environment. Because it's an application and not a *true* operating system, Classic lacks the direct access to hardware that both Mac OS 9 and Mac OS X boast. If you need to capture video, either download iMovie for Mac OS X from the Apple Web site or reboot in OS 9.1.

droolworthy

Jukebox 6000

Archos Technology www.archos.com \$349

You're an MP3 junkie with an intravenous T3 connection giving you your fix. You had to buy a second hard drive just to store your music. You plan on leaving your desk in the near future, but you cannot bear to leave your drugs at home. Archos is here to help with the portable Jukebox 6000.

At 12 ounces and 4.5 by 3.2 by 1.3 inches, this MP3 player is a lightweight alternative to clunky, Discman-size players with the same capacity. It can hold a whopping 6GB of data and—with 4 AAA batteries—has a playing time of 8 straight hours (enough to last you a full work day). Best of all, it's a fully functional, hot-swappable hard drive with a USB interface. Here's proof that big things *do* come in small packages.—Whitney Hess



A pocket full of MP3s.

First the CD, then the MP3, and now... the cassette?



Duo-64 Player

Digisette www.digisette.com \$259

Maybe you're a Luddite who still uses a Walkman. Maybe you carry a boom box on your shoulder. Or maybe your car only has a tape deck. Fret not—you, too, can join the digital revolution. Introducing a new kind of cassette: the Duo-64 Player from Digisette.

With on-board navigation buttons, EQ presets, a digital voice recorder, and included earphones, the Duo-64 functions like other portable MP3 players. But unlike other players, it can play back in a standard cassette deck. The Duo-64 carries 64MB of internal memory with room for an additional 64MB of MMC memory, and its USB interface can sync to iTunes. The player is also designed for audio programs (think books on tape), downloadable from www.audible.com. Digisette says the included rechargeable batteries last up to 6 hours for music playback and up to 10 for the spoken word. Guess you can teach an old dog new tricks.—Whitney Hess

HACKitIN

Making Stuff Work by Any Means Necessary

You thought the Commodore 64 was the most outdated piece of equipment we'd ever hack into the Mac? Think again. We're typing this article on a Liberty terminal (circa 1981) connected to the modem port of a beige G3 running Mac OS X.

The hack works because our *modern* operating system, Mac OS X, is actually based upon that venerable stalwart, Unix. Originally developed on seventies mainframes, Unix was designed to run on that era's operating systems. Mainframes didn't ship with monitors and keyboards, but instead typically housed a large number of serial ports to which you would attach "dumb terminals"—like our Liberty, a monitor and keyboard connected to a serial port. If you used dial-up services before AOL, you've probably run into a terminal emulator (a bare-bones connection to a mainframe) that mimicked these machines.

Because Mac OS X has a nice, solid BSD UNIX at its roots, it still contains all the old files and routines that drive antiquated

equipment like our terminal. If you have an irrational fondness for this sort of stuff, all you have to do is become the root user (the system administrator), then add a line like this one to the `/etc/ttys` file (ttys stands for teletypes):

```
ttymodem "/usr/libexec/getty std.9600"
adm3a on secure
```

This line says the following: We've connected a terminal to the modem port (in Mac OS X, the modem port is represented by the file `ttymodem` in the dev folder). We want to control it with the `getty` command (the usual Unix lingo for controlling a terminal). Since our Liberty terminal is set to emulate the even more antiquated ADM 3A, we tell Mac OS X that an `adm3a` is connected to the port. The port is active (`on`), and it's `secure`.—/S



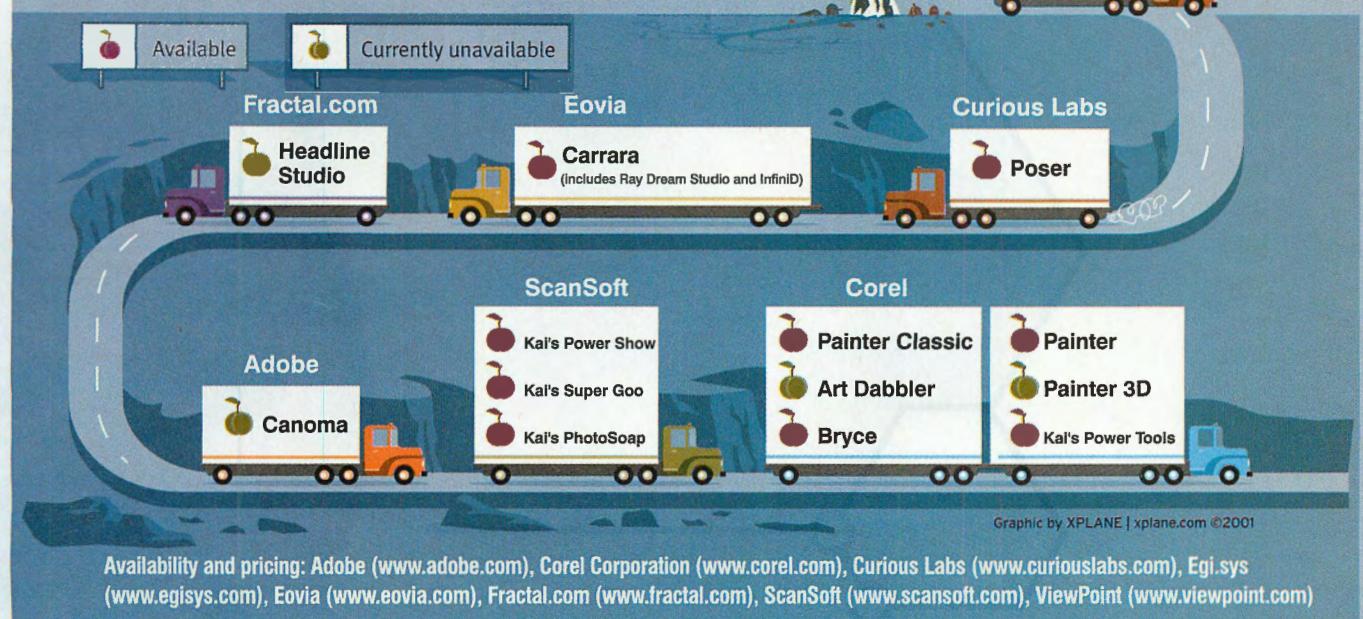
OS X Tips

Q You've politely muted your system sound so you can work into the wee hours without disturbing anyone. Your Mac crashes, and when you push its restart button, an ear-splitting roar wakes your entire household. Why? Mac OS X doesn't mute the startup sound when you choose Mute in the Sound pane of System Preferences.

Q Whatever you do, don't—we repeat, *don't*—give any user the name `root` when setting up a login account in the Setup Assistant or Users pane of the System Preferences application. Mac OS X already has a built-in `root` account, and setting up *two* of them will have unpredictable—and ugly—consequences.

What Happened to the MetaCreations Family Tree?

In a fit of financial trouble last year, MetaCreations sold all its popular graphics applications and changed its name to ViewPoint to focus on developing its 3D Web graphics technology. But what ever happened to plum products like Bryce and Painter? When MetaCreations gave up the family farm, it sold its fruits to various companies, which are ripening them for reentry to the Mac market. Here's where they are now.—NR



Shareware Pick of the Month

StickyBrain 1.0

PRICE: \$34.99 download. URL: www.chronosnet.com



FIND
StickyBrain
1.0 on
The Disc.

The ultimate Post-it note has arrived. StickyBrain 1.0, created by Chronos LC, is the vamped-up, tricked-out, cherry-finished cousin of the ornery Stickies application. With photographic backgrounds, sophisticated text formatting, lickable Aqua buttons, and an OS X Carbon version, this app bravely goes where no sticky has gone before.

StickyBrain also contains some practical note-management features. You can arrange notes in categories, each with a custom format that makes entering information—for example, your contacts—a little easier. A password sticky holds the user names and passwords for all those Internet accounts you've set up. And

once you've created a myriad of brightly colored organizational aids, you can hide and show them at will.

On yeah! I forgot to take a nap!
StickyBrain 1.0 includes handy reference guides, such as metric equivalents and area codes. And you can use hot keys to summon StickyBrain notes from other applications even when you don't have the StickyBrain application open.

Try it. You'll like it. And once you install and register it, be sure to check it off your to-do list.—NR



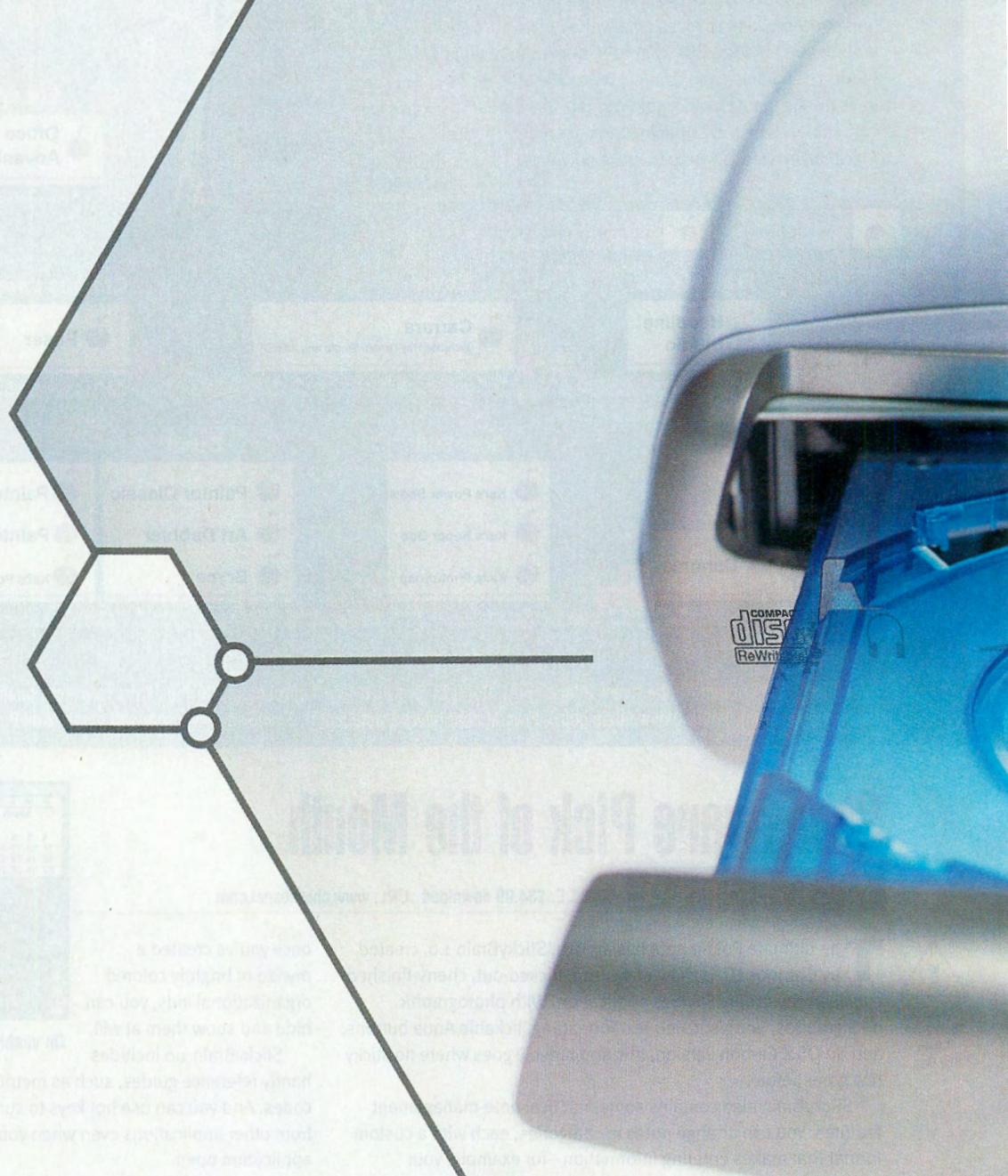
Oh yeah! I forgot to take a nap!

You just saved a day's workload of humongous files, but when you select your hard drive in the Finder's Computer window and press Command-I for Show Info, you notice that the amount of free space on your drive hasn't changed. You're not crazy; the Finder's lazy—log out and log back in to doze-slap the Finder into updating this info.

Do you have a 233MHz, 266MHz, or 333MHz iMac equipped with external speakers to improve the less-than-stellar performance of early iMac sound? If so, don't connect your external speakers to your machine's speaker port on the side—it's not working under Mac OS X. Use the headphone jack instead, and all should be well.



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CD-R 40x
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CD-R DL 24x
CD-RW DL 12x

MUSIC / DATA / PHOTO / VIDEO

 **BURN-Proof™**
FULL MULTITASKING CAPABILITY
STOPs buffer underrun ERRORS



scrapbook

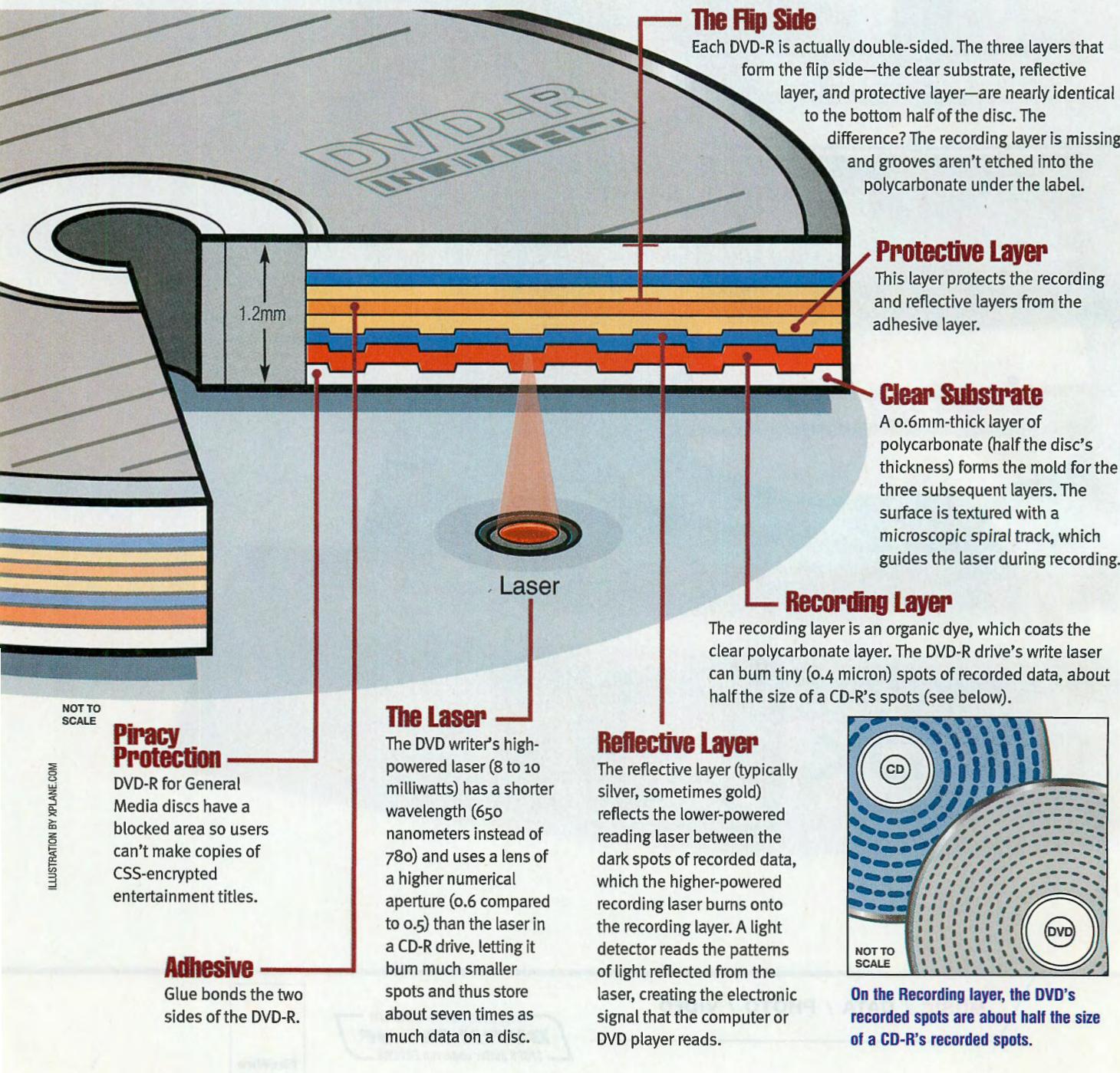
Where disc media resembles a petit four.

4.7GB DVD-R for General Media

by Narasu Rebba Pragada

With Apple's new SuperDrive, DVD media has descended from the high hills of the professional videographer to the low-lying flatlands of the home movie proletariat. Several varieties of recordable DVD media are available—we've chosen

to dissect the one required for the G4's SuperDrive, the 4.7GB DVD-R for General Media. We talked to Andy Parsons, senior vice president of product development and technical support at Pioneer New Media Technologies, for the scoop.



Unless you're the Lead Dog, the view never changes!



Put your competition behind you — install Sonnet Macintosh enhancement products to make your computer feel like new. Our G3 and G4 Crescendo™ and Encore™ processor upgrades accelerate your legacy Power Macintosh to the limit, and our Tempo™ Ultra ATA66 and Tango™ FireWire®/USB PCI adapters enable you to widen the connectivity lead. Be the lead dog.

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Brave New

Mac OS X: How to Integrate, Navigate, and

They did it. With the March inauguration of Mac OS X, Steve Jobs and his engineering dream team officially brought to market one of the most sophisticated pieces of software ever made. It's the first operating system ever to incorporate the power of Unix wrapped in an elegant, simple interface that doesn't require typing lines of code just to change your monitor resolution. Just the fact that we can use the words *Unix* and *simple* in the same sentence testifies to how amazing a technological feat OS X really is.

While OS X is exciting, it's also potentially intimidating. For those of you who are looking to upgrade to X, prepare to enter a strange new world. Say goodbye to the Application Switcher

and say hello to the Dock. Hasta la vista, manual memory allocation—the operating system handles all that now. Bid farewell to crashes that take down your entire system and Save dialog boxes that completely tie up an application. All this, and you can still run almost any of your existing apps in a virtual Mac OS 9.1 environment. Sound amazing? It is—and that's only the beginning.

Of course, every new operating system comes with problems. Apple's the first to admit that OS X contains bugs (believe us, there's no shortage of 'em). And while OS X has matured gracefully from its Public Beta roots, it's still experiencing some growing pains.



Find more than
50 Mac OS X apps
on The Disc!



Want to know which
hardware and apps
work in Mac OS X
and which don't?
Visit our OS X section
on the Web at www.macaddict.com/osx.

World X

Survive Apple's New OS



by Rik Myslewski, Ian Sammis, and the rest of the *MacAddict* staff

But that's where we come in. We've been acting as guinea pigs for several weeks now and can tell you all about the best and worst, coolest and lamest, most dreamy and nightmarish parts of this revolutionary operating system. We'll help you get OS X up and running, customized, and working smoothly. Then we'll show you how to tweak Classic to run all of your old apps, protect your Mac from hackers, and harness the power of Unix. We'll even tell you how to pick up dates using OS X (it's easier than borrowing the neighbor's dog or baby!). And to celebrate Apple's release of its 10th operating system, we do all of this in Top 10 lists, David Letterman style. So sit back, hang 10, and get ready to travel to a land that's new, exotic, and pretty darned exciting.

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10 Famous Tens

Amid the hoopla surrounding Mac OS X, it's important to remember that Apple's new baby is just one in a venerable crew of famous tens. Here are some others:

1. 10

The 1979 movie starring a bearded Bo Derek.

2. The 10 Commandments
"Thou shall not crash" is the first one.



Charlton Heston as Moses in *The 10 Commandments*.

3. 10 Lords A-Leapin'
On the 10th day of Xmas, these guys roused the rabble.

4. 10 Downing Street
The British prime minister kicks back here.

5. The Federalist Papers: No. 10
In 1787, James Madison wrote the continuing story of "The Union as a Safeguard Against Domestic Faction and Insurrection."

6. Wolf 10
This bad boy was part of the Yellowstone wolf reintroduction program. In 1995, Chad McKittrick killed him. That bad boy became the first person ever charged with (and convicted of) murdering an endangered wolf.

7. No. 10 envelopes
Remember snail mail?

8. The Big 10
An association of 11 large Midwest universities. Go figure.

9. Base 10
For those who missed fifth grade, it's our 10-digit numerical system.

X. 1010 A.D.
The year in which King Olaf of Norway destroyed London Bridge, inspiring the nursery rhyme by the same name.

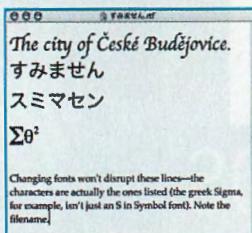
10 Reasons to Upgrade

In case you need some logical reasons to upgrade to Mac OS X—more substantial than "just because it's cool"—here's why you should plunk down the cash:

1 As a server, Mac OS X puts Mac OS 9 to shame and sends it home in tears.

2 If you're a scientist, engineer, or other geek-at-large, the amount of available software will roughly quintuple—and that's before you get a copy of Absoft's hypercool FORTRAN compiler.

3 If you use any non-Roman script, you need OS X badly. Every application running natively under OS X understands multiple languages and scripts.



Anyone read Chinese?

4 All the kids who use Linux will stop picking on you.

10 Reasons Not to Upgrade

So the new system's here, it's powerful, and it's pretty. What's not to like? Well...

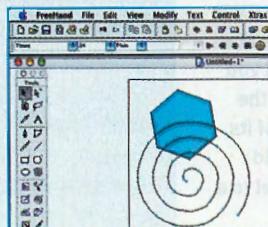
1 At version 10.0, it's still glitchy (see "10 Bugs That Aren't Your Fault," p30). While most of the real problems present in the Public Beta have disappeared, this incarnation still has enough little bugs to annoy you.

2 It'll disrupt your workflow. For instance, if you want to download tunes to your MP3 player, you may have to reboot into Mac OS 9.1 to get it to work. So much for plug-and-play.

3 Support for peripherals is iffy to nonexistent, particularly for ancient devices (like a SCSI scanner or serial tablet)—you know, the one from the company that went belly-up before leg warmers went out of style.

4 There's a dearth of apps written specifically for Mac OS X. Right now, Macromedia FreeHand 10 and AppleWorks are just about the only major native applications. Running Mac OS 9 apps via Classic is technologically cool, but pretty inconvenient.

You can't get a Carbonized version of Word yet, but at least you can draw pretty pictures with the OS X-native version of FreeHand.



5 OS X truly is "The power of Unix married to the simplicity of the Mac." This Apple catchphrase is cheesy but accurate.

6 You can create PDFs for free from any application that's X-native and can print, since the entire 2D graphics set is PDF based.

7 For the generally geeky, OS X is a toy chest overflowing with high-tech goodies. Suddenly almost every book in the computer section of a bookstore that doesn't specifically refer to Windows applies to the Mac.

8 OS X eliminates many annoying traits of previous OS versions. For instance, any Mac OS X-native application can take advantage of multiprocessing, you don't have to allocate memory manually, and system crashes are largely a thing of the past.

9 All of the cool kids are doing it.

X Translucent windows, supercool Dock, candy buttons—c'mon, you know you want some.

5 If you plan to run OS X on any 300MHz or slower G3 machine, the speed and performance you get may sorely disappoint you.

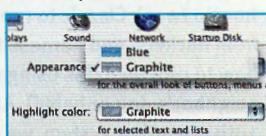
6 The lightning-quick responsiveness of Mac OS 9 is gone—OS X returns us to the annoyingly sluggish days of Mac OS 8.0.

7 At press time, OS X didn't offer support for WaveLAN—so if you're using AirPort with an older machine, you might want to wait.

8 OS X has a command line. If you consider the Macintosh the ultimate act of rebellion against cryptic commands, then you'll consider OS X a step back.

9 Unlike Mac OS 9, OS X has a full set of remote administration tools. While this makes the system considerably more powerful, it does raise the possibility that you'll get hacked. (See "10 Security Tips," p33.)

X You can't use the OS X desktop as an expression of your individuality. At press time, you can't use Kaleidoscope (which provides different desktop themes), and you have a choice of just two desktop themes (Graphite or Aqua).



Blue or gray—it's like a virtual civil war on your Mac.

10-Step Installation

So you've taken the plunge and bought a copy of Mac OS X. In the box you'll find three discs containing the Mac OS X installer, the Mac OS 9.1 installer, and the OS X developer tools. (Only the first two discs are necessary to install and use OS X, but the developer tools offer extra high-end options.)

1 Back up *everything*. If you've got a tape or CD-RW drive, this is the time to haul it out and make it pay for itself.

Retrospect is the perfect tool for backing up your data.



2 If you have a beige G3, you'll need to reformat and partition your drive. The old G3s have an old Open Firmware version that doesn't understand IDE drives over 8GB, so you must create a partition within the first 8GB of the drive and install Mac OS X there. (For information on partitioning your drive, see "OS X Xposed," Dec/00, p28.)

3 Boot from the Mac OS 9.1 CD and perform a clean installation of 9.1. If you are already running Mac OS 9.1, you can skip this step. (You can opt to install 9.1 over your current OS if you want, but a clean install avoids problems down the line.)

4 Boot to your new OS 9.1 installation and insert the Mac OS X CD. Double-click the installer—this will cause your machine to reboot from the CD and begin running the OS X installer.

10-Step Uninstall

If you've had enough of this new operating system and all of its nasty little bugs, you may want to exorcise it completely from your Mac. Rather than having to reformat your drive, you can choose to uninstall Mac OS X without losing your files—but it's a bit tricky.

1 Delete the Applications, Developer (if you installed the developer tools), Library, and System folders.

2 Rename the Users folder—you may have stored work in there you'll want to keep, and leaving it in a folder called Users might get in the way of a clean install.

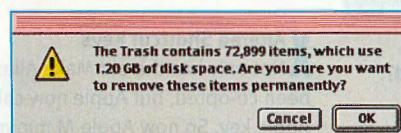
3 Delete mach and mach.sym (OS X's kernel) files from the root level of the hard drive.

To Mac OS 9, these crucial X files are just documents.



4 Empty the Trash. OS X has a *lot* of files (including the developer tools, our system weighed in with more than 72,000), so this will take some time.

This is going to take a while—got a copy of War and Peace handy?



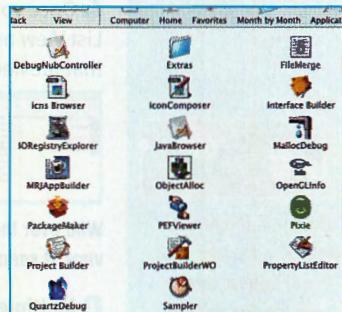
5 Enter the information that the installer requests. Don't reformat your internal drive unless you're planning to run the Classic environment and OS X on different partitions—you don't want to wipe out the installation of Mac OS 9.1 you've just completed.

6 After the installer finishes, try to avoid humming *Rhapsody in Blue* as the welcome movie plays.

7 Enter the information that the setup assistant requests. You can choose to set up your Internet configuration now or skip this step and do it yourself later.

8 Insert and install the CD containing the developer tools even if you're not a developer. Doing so will give you basic OS X geek tools, such as the Property List Editor and the InterfaceBuilder. These tools let you do all kinds of good stuff such as hacking preference files and applications.

The developer tools might look intimidating, but they're great fun to play with.



9 Launch Mail. Send gloating emails to all of your OS 9 friends telling them you're on Mac OS X. (Even if you don't plan on using Mail, you should at least send one email from here for good measure.)

X Finally, remember that you can always boot back into Mac OS 9.1 by bringing up System Preferences in the Dock and choosing Startup Disk.

5 Take a *looong* lunch while you wait for the Trash to empty.

6 Run ResEdit 2.1.3. Choose Get File/Folder Info from the File menu and navigate to the root level of your hard drive. You should see some files you haven't seen before.

You can see invisible files and folders in ResEdit.



7 Next, select a number of files one by one and make them visible by turning off each file's Invisible check box. These files include: mach_kernel, Volumes, and Network; the Unix directories (tmp, etc, var, bin, private, and so on); and every file that starts with a period (.)

8 Now that the files are visible, drag them to the Trash, and empty the Trash.

9 Take a nice, leisurely coffee break.

X Delete the hard drive alias from your desktop—you don't need it in Mac OS 9. In the Extensions Manager, turn off ProxyApp and Classic Support UI. Your Mac should now be completely free of Mac OS X.

10 Cool Features of the Dock

We admit it—we've got a love-hate relationship with the Dock. Here's what we love about it:

1. Icons explode when you remove them from the Dock. (We like explosions.)

2. You can set icons to magnify as you roll over them.

3. You can resize the Dock.



Dragging the divider line also resizes your Dock! Bonus: Click between the divider and its neighbors for the Dock's own mini Contextual Menu.

4. You can hide the Dock.

5. QuickTime movies keep playing while Docked.

6. Icons bounce when you click them.

7. We like the very cool Genie Effect.



Back into the bottle with you!

8. It's completely configurable.

9. The spring-loaded pop-up menus rule.

X. Cuts thousands of julienne fries in seconds!

10 Best Interface Features

The moment Steve Jobs introduced the world to Aqua—Mac OS X's graphical (and lickable) user interface—Mac followers had extreme reactions. A year and a half later, the division remains: to some, it's GUI nirvana; to others, it's a sloppy, gooey mess. Here's what we like about Aqua:

1 The Dock

One of the most immediately noticeable changes in Mac OS X, the Dock hangs out at the bottom of your screen (see "10 Cool Features of the Dock," left).

2 The Finder Column View

Once you learn to love it, it's the perfect marriage of Ms. List View and Mr. Too Many Windows Open. (And what about that preview pane? Spiffy, huh?)



Who ever thought the desktop could be so far away? With column view, it seems a little more manageable.

3 Multiple Users

Each user gets his or her very own Mac (almost)—with a custom address book, system preferences, everything! We logged out, then logged in as another user without interrupting a DHCP Internet connection.

4 Apple Listened

It really is *your* interface, thanks to the more than 75,000 bits of user feedback Apple received in the Public Beta phase. Thank those users as you configure your Dock.

5 Finder Window Toolbars

They're now fully customizable, as toolbars should be.

6 The New Blue Apple Menu

Once again, Steve listened to the beta testers and put the Apple menu back where it belongs.

You knew they wouldn't really kill the Apple menu, didn't you?



7 Finder-Level Undo

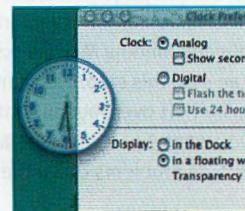
Don't you hate it when you move a file and it gets lost along the way? Command-Z, baby.

8 Sheets

In some apps, Save dialog boxes slide out of the window's title bar and don't take over the whole app anymore. By the way, this is Steve Jobs's favorite OS X element—so you had better like it, or you're fired.

9 The Clock

It's draggable, translucent, and available in old-school face-and-arms format for us geezers who still think digital watches are a fad. Bonus—it's Dockable!



Tick-tock, that's one sweet clock!

X Screen Savers

Sure, we don't *need* screen savers anymore, but this isn't about need.

10 Worst Interface Features

Here's a list of features we wouldn't mind saying good-bye to in future versions:

1 The Dock

It still smacks of Windows. Did somebody say Taskbar?

2 Annoying Default Settings

The default settings are decidedly un-Mac-like. For example, Finder navigation stays in one window, even though double-clicking used to spawn a new window.

3 Drag and Drop

This classic Mac OS feature works on icons and some third-party apps, but not on text in OS X's stock applications.

4 Default Font

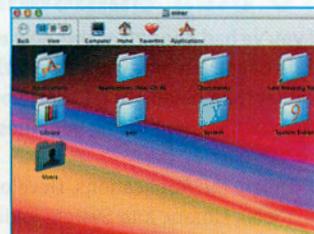
You can't change the default font used in desktop icons and Dock rollover cues.

TextEdit

What is that, Chicago Bold?

5 Huge Icons

128 pixels isn't an icon, it's an acreage.



6 Window Pictures

Come on! How cheesy.

At least you can only do this in icon view.

7 Unchangeable Hard Drive

You can't change a hard drive icon without putting it through minor surgery.

8 Pulsing Blue Buttons

These have the uncanny ability to evoke either calm serenity or frothing brain hemorrhages.

9 Chess

The included dumb chess game doesn't let you cheat.

X Altered Shortcut Keys

Not only has the old Make Alias shortcut (Command-M) been co-opted, but Apple now calls the Command key the Apple key. So now Apple-M minimizes an open window.

10 Ways to Customize OS X

Sure, Mac OS X may already be as eye-catching as Jennifer Lopez at an Oscar gala, but you have the power to enhance its utility and elegance even more. After all, OS X follows the great Apple tradition that your Mac is, after all, *your Mac*. Yes, there are limitations—don't go renaming system-created folders, for example—but a world of powerful customization options lies at your fingertips.

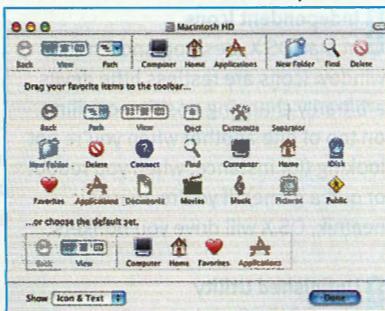
1 Start with System Preferences

Apple has dispensed with control panels and replaced them with the System Preferences application, which you launch from the Apple menu. Here you can fiddle with the Dock's display options, change your Alert sound to Funk, Tink, Bonk, or others, and choose from an array of truly gorgeous screen savers—or create your own.

2 Tweak the Toolbar

At the top of any Finder window you'll see the toolbar. To change its contents, choose Customize Toolbar from the Finder's View menu and drag icons to your heart's content—we recommend adding Path (this gives you a hierarchy of where you've navigated) and Find (aka Sherlock). Want to ditch the toolbar and have new windows open for each folder, just like in the Good Old Days? Simply click the bubble button in the upper-right corner of any Finder window.

Use the new Finder toolbar to access common locations and tasks, or hide the toolbar and make your windows behave as they have for the past 17 years.



3 Decorate Your Windows

With any Finder window open, choose Show View Options from the View menu. There you can change icon size and arrangement as well as the folder background, either for the open window or globally. Be forewarned—if you have Icon Arrangement set to None or Always Snap To Grid, your icons may scatter erratically.

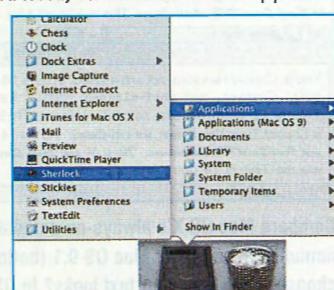
You now have the freedom to make your Finder windows as garish as you want. And maybe window pictures aren't so bad.



4 Dock Your Hard Drive

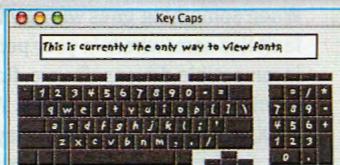
For quick access to everything on your hard drive, just drag it into the right side of your Dock. Click and hold, and a window will appear with submenus for each folder on the root level of your drive. If you've been good and haven't cluttered this level with extraneous folders, this is an easy way to navigate through your system.

Drop your drive into the Dock and you can quickly navigate anywhere, anytime you want.



5 Add Key Caps to Your Dock

One glaring omission from OS X is the ability to click a Font suitcase and be rewarded with the familiar sample text about the cozy lummox and the job-hunting squid. Want to know what a font looks like? You have to use Key Caps, so drop it into your Dock (it's in the Utilities folder inside your Applications folder).

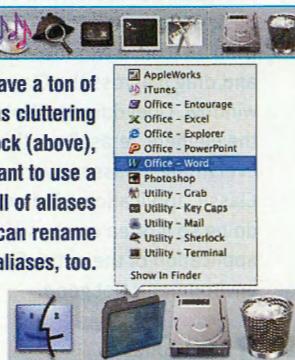


Currently, the Key Caps utility is the only quick and easy way to see what your fonts look like in OS X.

6 Conquer Dock Clutter

To prevent your Dock from becoming overloaded with icons, create a folder in your Home directory called Top Apps, fill it with aliases to all your frequently used apps, then drag the folder into the right side of your Dock. Martha Stewart would be proud.

If you have a ton of applications cluttering up your Dock (above), you might want to use a folder full of aliases (right). You can rename the aliases, too.



7 Your Home Is Your Castle

Remember that when others log in to your Mac, they don't have access to your Documents folder. In addition to anything incriminating, Documents is a good place to store such potentially destructive applications as Terminal and NetInfo Manager (both let you control the Unix layer). Wouldn't want Uncle Joe playing "What if?" with those utilities after the bars close, right?

8 Carry Your Library with You

The Library folder in your Home directory contains all of your customization preferences, as well as personal fonts and other goodies. If you travel from Mac to Mac, keep an updated copy of this folder on a Zip disk and you can easily impose your personality on any Zip-equipped Mac. By the way, a USB Zip drive worked fine with OS X when we tried it.

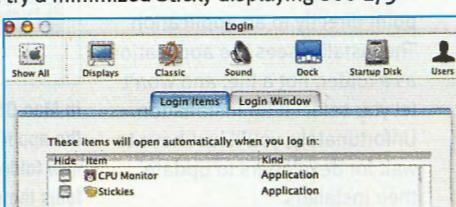
9 Play Favorites

Don't enjoy Finder navigation? Want to keep your Dock pristine? Use the Add To Favorites command in the Finder's File menu to add any folder, document, or application to the Favorites list, which you can access from the Finder's Go menu.

X Get a Good Start

Use the Login pane of the System Preferences application to tell your Mac which apps you want to launch at startup. For fun, we recommend CPU Monitor (tells you how much power your CPU is utilizing); for convenience, try a minimized Sticky displaying 800-275-2273 (Apple's tech-support number).

Remember the Startup Items? Now they're Login Items, and you set them in a System Preferences pane.

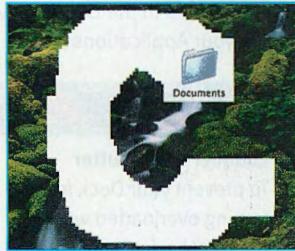


10 Bugs That Aren't Your Fault

When something goes wrong with your Mac, it's natural to think the fault lies somewhere in your personal system. Extension conflicts, incompatible driver software, flaky hardware—a million gremlins wait to bring your Mac to its knees. With a new operating system like Mac OS X, however, the problem may very well not be your Mac's fault—in fact, we found a wealth of weirdness when running OS X on a Mac Apple sent to us, configured by their own übergeeks.

1 Wipe Out!

Open an application window in the Classic environment. Click the desktop to switch to the OS X Finder. Grab an icon, a window—anything—and drag it across the Classic window. Quel damage! Not only does the element "erase" anything and everything it passes over in the Classic application window, but while doing so it often crashes either the application or the entire Classic environment. Not good.



You can create art by dragging OS X elements over Classic application windows—but Apple probably didn't intend that.

2 Dead Zones

Every so often—especially after you see a Classic error message and then close it—the display area formerly occupied by a Classic window simply goes dead. It may look okay, but you can't click or grab anything in it. It's off in its own little world until you log out and log in.

3 Screen Acne

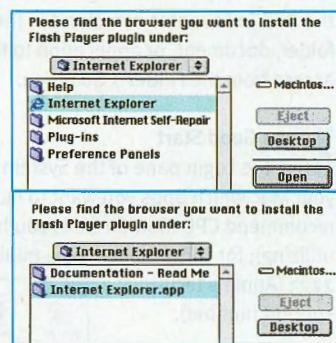
When you drag an icon out of the Dock, it disappears in a cute little cloud of smoke—cute, that is, if the puff actually does disappear. Sometimes it remains onscreen, looking like an adolescent skin condition. What's more, the little squares that puffs occupy remain inaccessible to applications. Log out. Log in.



Exploding Dock icons sometimes leave debris onscreen (left) that causes dead areas to appear in Classic windows (right).

4 Update Impossibilities

OS X applications aren't files, but actually folders full of resources that the OS X Finder is smart enough to display as files. This causes a problem when pre-OS X software installers—such as those for Macromedia's Flash and Shockwave—need to point directly to an application. The installer sees the application as a folder, not a file, and won't let you select it for installation. Unfortunately, you'll just have to wait for developers to update their installers.



In Mac OS 9, an installer can easily find the app it's updating (top). Mac OS X's new folder-based application structure fools the same installer (above).

5 Disappearing Menus

Occasionally when you launch an application in the Classic environment, you'll notice that the application's menu bar is blank. Command-key equivalents still work, so press Command-Q to quit, cross your fingers, then try again.



And now, for OS X's next amazing sleight of hand, the **Incredible Disappearing Menu** trick!

6 Colorful Mail

The Mail application will sometimes respond to a Return command by changing text color and justification. Apple's working on a fix, but until then all you can do is select the affected text and reformat it.

7 Silent Modems

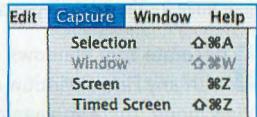
Can't hear your internal modem, even though you're absolutely, positively sure you haven't ordered it to shut up? You're not alone—many internal modems have gone silent in the first release of OS X. Apple's looking into it.

8 Independent Icons

In Mac OS X, desktop and Finder window icons are restless little devils, arbitrarily changing position or piling on top of one another when you're not looking (for instance, when you reboot or quit a game). If you're an iconic neatnik, OS X will drive you bonkers.



Finder icons sometimes inexplicably stack up, one upon another upon another upon another...



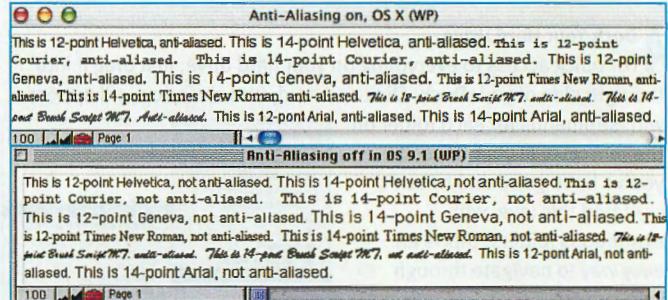
The Capture Window feature in the Grab utility didn't make the deadline.

9 Unfinished Utility

Mac OS X's Grab is a useful screen-capture utility, but it's apparent that Apple served it half baked. For instance, the Capture Window function doesn't work and is grayed out. Use the Timed Screen command instead—it works just fine.

10 One Questionable Decision

Okay, this isn't strictly a bug, but it's a pain in the arse. For reasons unknown, Apple no longer lets you turn off text antialiasing. The result? Sometimes you get muddy, hard-to-read text when font sizes hover in the low teens—exactly where you do most of your work. Of course, some people like the way antialiased text looks, but for those who don't—well, they're out of luck. Choice is a good thing, Steve.



Compare Mac OS X's always-on antialiased text (top) with the optional nonantialiased text of Mac OS 9.1 (bottom). Wouldn't it be nice if you could choose which way your text looks? In OS X you can't.

10 Troubleshooting Tips

Operating systems are insanely complex pieces of software—and even an insanely great new operating system such as OS X will stumble coming out of the gate. Many, if not most, of the bugs in OS X are both unavoidable and currently unfixable—but do keep a few troubleshooting tips in mind as you get to know (and sometimes want to kill) your new operating system.

1 Fool the Finder

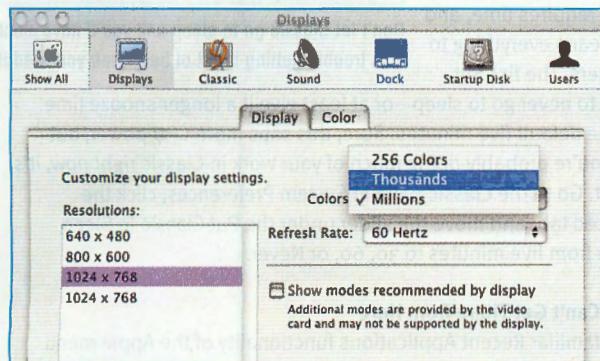
The Finder sometimes takes an ungodly amount of time to recognize that you have saved a file into a particular folder—you know it's there, but the Finder may need some nudging to recognize it. The trick? When you want the Finder to update a window's file and folder list, just create an empty folder in that window, name it, then click the folder again—the window will instantly update.

2 Have Patience When Pasting

You may get strange results when cutting and pasting between an OS X application and one running in the Classic environment—and vice versa (for instance, nothing shows up when you try to paste). The problem is that the OS X and Classic Clipboards sometimes take a few seconds to synchronize. The drill: Cut. Relax for a couple of seconds. Paste.

3 Opt for Fewer Colors

If your Mac is equipped with ATI's Rage II+, IIC, Pro, or LT Pro graphics hardware, you may notice QuickTime and some games running at frame rates you might consider, uh, well...less than optimal. Go to the Displays pane in System Preferences and set Colors to Thousands. This might help—or it might not.



If your graphics aren't as snappy as you want, give them a million fewer colors to chew on.

4 Blame AOL

Currently, you can't access America Online from a dial-up connection when you're in the Classic environment. You have three options: Wait until AOL fixes this bug, upgrade to a DSL or LAN-based Internet connection, or reboot in Mac OS 9.1. You've been wanting to go broadband anyway, right?

5 Pamper Your SCSI Chain

If your SCSI setup worked fine under Mac OS 9.1 but is giving you trouble now that you've upgraded to OS X, you're not alone—OS X is much more fussy about such SCSI niceties as proper termination and matched cables. Either check your termination and cable quality, or bite the bullet and upgrade to a FireWire Mac. After all, this is the 21st century, right?

6 Upgrade Your Games

If you try running Tomb Raider II 1.0.1 and earlier (Aspyr Media, www.aspyr.com), Star Wars: Episode 1 Racer 1.0 (LucasArts Entertainment Company, www.lucasarts.com), or Myth II 1.2.x and earlier (Bungie Studios, www.bungie.com), you may get an alert box telling you either that OpenGL wouldn't load or that not enough memory is free. No problem—each of these games has an update you can download from the publisher's Web sites.

Updates and Patches

MAC Platform

STAR WARS RACER 1.0.1 Update

Platform: Mac

Format: CD-ROM

Size:

RaceMac101.sit.hqx

530KB

RaceMac101.sit.bin

457KB

Min. Requirements:

Installation: To install the Star Wars: Episode 1 Racer v.1.01 patch, copy the application "Star Wars Episode 1 Racer" into the installed folder on your hard drive. Copy the file "Switches.txt" into the Data folder within your installed folder. (Allow the Finder to replace files with the same name.)

Corrects:

- 3D accelerator cards using 3dfx Voodoo2/Voodoo3 chipsets will run without 32-bit Z buffering enabled (see 16-bit buffer setting in updated Switches.txt file)
- Mouse enabled in game menus
- Added ability to manually calibrate joysticks
- Updated Read Me file with latest troubleshooting information

Notes: This update is for the Retail version only.

File: RaceMac101.sit.hqx or RaceMac101.sit.bin (LucasArts FTP Site)

George Lucas is ready for OS X. So are the good folks at Aspyr Media and Bungie.

7 Stop Cocoa from Going Cuckoo

If you're using an OS X application and drag functionality is not working correctly, chances are that 1. the application was created using Cocoa development tools, and 2. you had your Num Lock key on. Just hold down the Shift key and press Num Lock to turn it off, and all should be well.

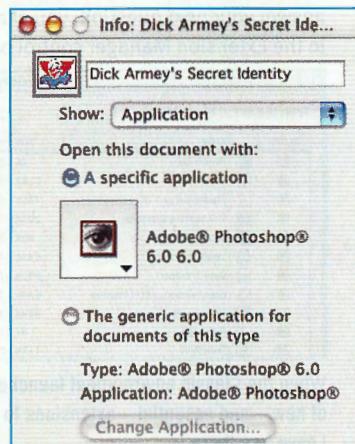
8 Don't Ask Too Much of Mail

If you use Apple's Mail client, it may not work if you try to use the Apply Rules To Selection function on more than 256 messages at a time. In that case, just select fewer than 256 messages and everything should be peachy.

9 Bend Applications to Your Will

If a file doesn't open in the application that created it, or if you'd rather open the file in a different app, use the Show Info (Command-I) window to assign the file to any compatible application you'd like. Choose Application in the Show drop-down menu, click the button next to A Specific Application, then click the icon to browse to the app you want.

OS X lets you assign applications to files on a file-by-file basis in what used to be the Get Info window (now Show Info).



10 Don't Lose Your Install Disc

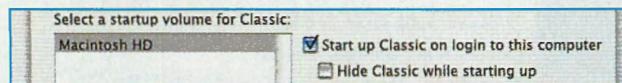
If you forget your password and you're the only admin user registered on your Mac, you'll need to restart from the Mac OS X installation disk to give yourself a new password. Use the Reset Password command in the Installer menu, set the selected user to the original admin name, then enter a new password.

10 Tricks for Using Classic

Currently, Classic applications outnumber those created specifically for Mac OS X by, oh, about a bazillion to one—it's a fair assumption that you'll do the majority of your work in the Classic environment for the immediate future. The good news is that the wizards at Apple have made Classic very stable and pretty snappy. The bad news is that you have to give up some of OS X's zesty goodness, such as preemptive multitasking and protected memory. Nevertheless, if you keep a few things in mind, working in Classic can give you a warm, nostalgic feeling.

1 Put It on Automatic

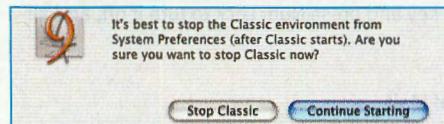
Since Classic is where you'll live most of the time, you might as well set it to launch each time you start up your Mac and log in. Sure, it'll take longer for your machine to get ready to work, but your Classic apps will bounce into view that much faster when you need them. To do this, go to the Classic pane of the System Preferences application and set Classic to launch when you log in.



For a less painful OS X experience, set Classic to start up at startup.

2 Practice Safe Startups

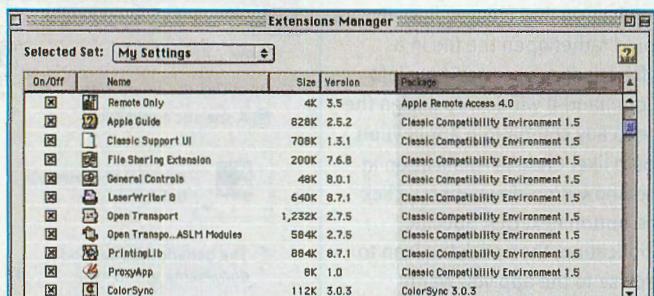
As the Classic environment launches, a window appears with the new Aqua-style thermometer and a Stop button. Clicking that button brings up another window that advises you to let Classic finish launching. Obey it—premature cancellation can result in a system crash.



When Apple advises you to be patient, it's best to obey.

3 Don't Overextend Yourself

For best performance in the Classic environment, use as few extensions as you can possibly manage. Make sure, however, that you don't eliminate any that bear Classic's Package name—and to answer your next question, you can find out which extensions do in the Extension Manager control panel.



When the Classic environment launches for the first time, it adds a number of new—and essential—extensions to your Mac OS 9.1 System Folder. Leave 'em there.

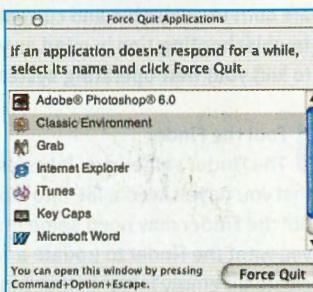
4 You Win a Few, You Lose a Few

The relationship between applications and documents is a bit different in Classic than in Mac OS 9.1. If an app hasn't yet launched, double-clicking an associated document opens both the app and the doc. If the app's already running, double-clicking the document just brings the app to the front—it won't open the document. Huge pain.

5 New and Improved Three-Finger Salute

Remember how Command-Option-Escape used to bring up a Force Quit dialog box that nine times out of ten was an exercise in futility? No more. Now you get a well-behaved list of running applications and a polite request to choose the one you want to assassinate. And it works.

Thanks to OS X's well-behaved Unix underpinnings, forcing an application to quit—including the Finder or the Classic environment—is an exercise in civility, not futility.

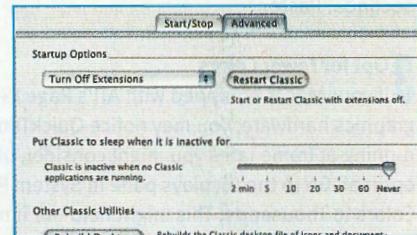


6 Kiss Your Old Screen Savers Good-Bye

Mac OS 9 screen savers won't work in the Classic environment. Think about it: You've got Classic running in the background while you work in a Mac OS X application. After the prescribed period of Classic inactivity, the Classic screen saver looks at its watch and thinks it's time to kick in—but what screen exists for it to save?

7 Classic Insomnia

If you leave the Classic environment for any length of time, you need to reawaken it when you want to revisit an app running in Classic. Of course, reawakening Classic requires time, and time means everything to Mac users. The fix? Set



Don't let Classic go to sleep and you'll have much less trouble getting it out of bed when you need it.

Classic to never go to sleep—or at least give it a longer snooze time than the default five minutes. Sure, this saps more CPU power, but since you're probably doing much of your work in Classic right now, it's worth it. Go to the Classic pane in System Preferences, click the Advanced tab, and move the slider under the Put Classic To Sleep section from five minutes to 30, 60, or Never.

8 You Can't Get There from Here

The familiar Recent Applications functionality of the Apple menu still works in Classic—but only for Classic applications. OS X applications show up in the Recent Applications hierarchical menu, but not in Recent Documents (both are located under Recent Items).

9 Year to Burn?

Sorry, but as far as both Mac OS X and the Classic environment are concerned, that nifty new CD-R drive in your nifty new G4 or iMac is only a CD-ROM drive. If you want to burn a CD-R, you gotta reboot in Mac OS 9.1. Apple promises a fix "real soon now." Think summer.

10 Shut It Down Before Starting It Up

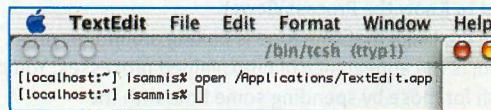
If you need to leave the friendly confines of Mac OS X and the Classic environment, remember to visit the Classic pane in the System Preferences application and turn off the Start Up Classic On Login option before restarting in Mac OS 9.1. If you don't, you'll have to wait through the ever popular "Your computer did not shut down properly" disk-check procedure before Mac OS 9.1 starts up.

10 Useful Terminal Commands

Firing up Terminal (in the Utilities folder located inside the Applications folder) in some ways seems wrong when you're using a Mac. Still, it can be a useful tool—for instance, it allows you to complete tasks at scheduled times or identify confused files that become garbled as they travel over a network.

1 open *file name*

Open tells OS X to behave as though you double-clicked the given file in the Finder.



With the *open* command, you can make Unix scripts control Macintosh applications.

2 vi and emacs

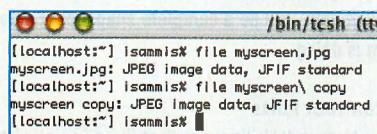
If you work with text files a lot, you can edit them quickly using these commands—for example, if you need to fiddle with some raw HTML. These commands won't be as necessary when Bare Bones Software (www.barebones.com) carbonizes BBEdit.

3 man *command*

This command lets you read the manual pages for the system—useful if you're trying to teach yourself to use the Terminal. Type `man man` to see the manual page that describes the `man` command. (Say that three times fast.)

4 file *file name*

Sometimes files sent over a network become garbled and don't list a type and creator or a filename extension. This command looks at the file's contents to try to work out those details.



The *file* command can identify both of these files as JPEGs, even though the latter is missing both type and extension.

5 last

The `last` command gives you a rundown on who has logged into your computer.

6 script *file name*

This command saves everything that happens in your Terminal window to the file you specify (type `exit` to stop the transcription). This is useful if you want to tell someone (for example, tech support) about a strange problem.

7 wc *file name*

The `wc` (word count) command returns three numbers: the number of lines, words, and characters in the file you specify.

8 crontab -e

OS X (like most *nixs) comes with a nifty tool called cron that lets you auto-execute commands at a later time. By typing `crontab -e`, you can edit your personal crontab (cron table) to spell out what you want to run and when. Combine this with `open` and some AppleScripts, and you can have Photoshop start some long filter process at 3 a.m.

9 perl *file name*

If you're into scripting, this command is the tool for you. Just write your perl scripts, then type `perl file name` to run them.

X cc, gdb, make, etc.

Finally, there are commands like `cc` (C Compiler), `gdb` (GNU Debug), and the rest of the development tools that come on the OS X Developer CD. So get coding, folks!

10 Terminal Window No-Nos

While the Terminal window is cool and powerful, using it can be like rewiring a house without turning off the power first. Here are 10 commands to avoid.

1 cp

Don't `cp` files (the Unix equivalent of `copy`) with crucial resource forks, such as Classic apps. The `cp` command doesn't know about resource forks, types, or creators. Try to `cp` an app and you'll end up with a damaged copy.

2 su (unless you know what you're doing)

Typing `su` changes you into the root user, which gives you endless privileges and the capability to wreak havoc on your Mac. Many of the commands on this list only do real damage if you're root.

3 rm -Rf /

This command tells the computer to delete every file it knows about on every connected hard drive. Oops.

4 login

This lets you switch users, but use it from the command line and you'll end up with ghost users you can't get rid of.

5 fdisk

This old, outdated command-line disk formatter is inferior in every way to the tools that exist now—it's easy to waste a lot of time trying to perform simple tasks like creating extra partitions on a drive. Use the program Disk Utility (in the Utilities folder) instead.

6 Bill Gates

This phrase prompts some editorializing by the shell (yep, we're serious). It's not dangerous, but who knows where Microsoft's legal eagles might not turn up these days.

7 What's my skill at chess?

This command's not dangerous, but the joke that comes up is extremely old and very stupid.

8 cat > death.c

```
main() { for(); } {fork(0);}  
[Type Control-D]  
cc -o death death.c  
. /death
```

This produces a program that generates as many threads as it possibly can, effectively bringing down the system.

```
[dheppc:~] isammis% cat > death.c  
main () {for(); } {fork(0);}  
[dheppc:~] isammis% cc -o death death.c  
[dheppc:~] isammis% ./death
```

Nooooooo!

9 kill -9 process ID number

This command instantly force-quits a Unix process. If you're root (see 2), you can kill important system tasks that will cause Mac OS X to not run properly (or at all).

X niutil -destroy domain path

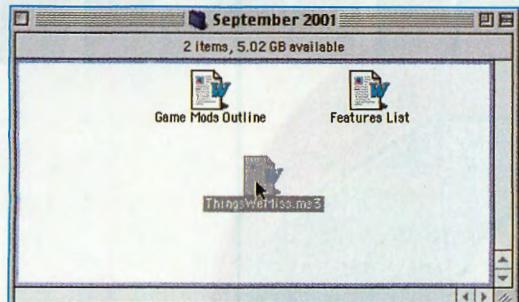
The `niutil` command lets you fiddle with some of the core system preferences, and its `-destroy` option lets you delete basic system information—a sure way to wreck your system.

10 Things We Miss from Mac OSs Past

While Mac OS X is a giant leap forward for Mac kind, we do miss certain elements of Mac OSs past. Here we commemorate them and hope maybe someone from Apple is reading and taking notes...

1 Spring-Loaded Folders

In OS X we often find ourselves dragging a file onto a folder waiting for that folder to open before we realize that ain't gonna happen.



God, we miss having folders open at our will.

2 Pop-up Folders

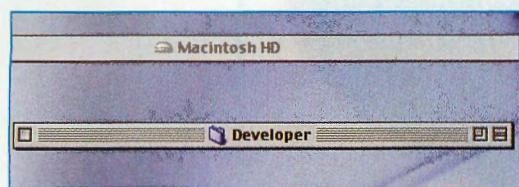
They'd lurk at the bottom of your screen, out of the way most of the time, then fly into action when you called on them.

Macintosh HD Developer

The Dock's cool, but we miss pop-up folders badly.

3 Window Shade

It was quite useful to double-click your title bar and have the window collapse. And while the ability to shove windows into the Dock is tremendously cool, we still have a soft spot for the old floating title bars of the past.



Some folks hated the floating title bars, but we kinda liked them.

4 Lunatic Speed

The interface elements in Mac OS 9.1 (menus, windows, and dialog boxes) aren't as pretty as their OS X equivalents, but they opened, closed, moved, and resized more quickly.

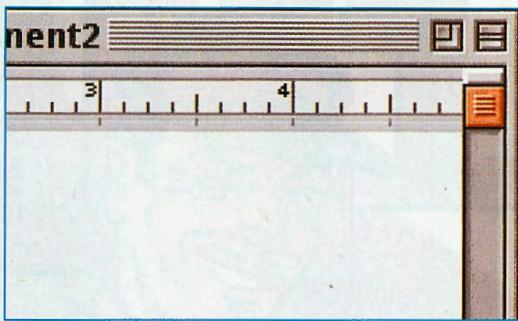
5 Coffee Breaks

If there's one advantage to a system that lacks preemptive multitasking, it's the coffee breaks you get to take while you run Photoshop filters, perform massive FileMaker searches, and reboot after crashes. We'll miss those times.

Ian Sammis and Rik Myslewski are hoping to drag the rest of the MacAddict staff down with them into Unix depravity.

6 Colors Beyond Blue and Gray

Remember the time when you had color choices other than Aqua and Graphite for your interface? We miss warm colors.



Ahhh...orange scroll thumbs. At least they're still in Classic.

7 Loose Organizational Scheme

The way you organized your computer under older Mac OSs was entirely up to you—and many of us quickly developed schemes that weren't exactly methodical. Making your Mac feel like home is just a little harder in Mac OS X, with its many specialized folders. Somehow it just feels wrong to litter movies all over your hard drive when there's a perfectly good Movies folder sitting in your home directory.

8 Random Desktop-Picture Selection

In Mac OS 9.1, you could drag a folder full of images onto the Appearance control panel's desktop picture controls, and your Mac would randomly pick a background image every time you restarted. No go under Mac OS X.

9 That Finished Feel

Mac OS 9.1 was the culmination of years of debugging, optimizing, and fine-tuning. The result was a system that behaved smoothly and predictably. Mac OS X feels much less complete—it'll need a few years of ironing out before it starts to feel polished.

X Iguana Iguana Powersurgius

If you still remember that ancient Easter egg from the System 7 days (generated by dragging the text *secret about box* to the desktop), you probably still think the flag flying over the Apple campus was cool. We're disappointed that we can't check out how the little lizard looks accelerated by a GeForce3 card.



We miss that friendly lizard—even if he did have crazy eyes.

10 Mac OS X Pickup Lines

Anyone who says OS X is *just* an operating system is wrong. It's also a great way to start a conversation with that cute little iBook user at the coffee shop or the hot babe you've been eyeing at the Internet cafe. Here are some pickup lines guaranteed to work on any unsuspecting Mac OS X user:

1. I love your throbbing buttons.
2. My, look at the size of those icons!
3. Wow, your operating system has more uptime than Bob Dole.
4. Multitasking really makes things exciting, but you've got to be flexible too.
5. Do you wanna see me comfort like a genie and slide into your Dock?
6. That progress bar just keeps getting longer and longer and longer...
7. May I lick your screen?
8. I love the way your icons bounce when you touch them.
9. Wow, once you boot up, you never seem to crash.
- X. I love how your Save sheets slide in and out and in and out.



If only Johnny used Ingredient X, he'd be so much more attractive.

A FISTFUL OF FILEMAKER



Create a Relational Database (Yawn) to Make a Game of Crazy Eights (Cool!)

BY IAN SAMMIS

ILLUSTRATION BY JOHN KACHIK

For most people, the word *database* conjures up images of boring people in suits dealing with massive lists of data.

While that image is not entirely inaccurate, the reality is that databases can be very cool tools. Why? Because they can do nearly anything you want them to do! To prove the point, we'll corrupt the morals of a young FileMaker installation by teaching it to play cards.

Using FileMaker, you can create several databases, then link them together to create one relational database. The reason you create relational databases is that it's easier to maintain and update

a bunch of simple individual databases than one behemoth that contains all of the information.

Here we use a game of Crazy Eights to show off the inner workings of a relational database. We'll give you an in-depth look at how our simple game came together, from building the card deck, hands, and piles to putting the actual game together using scripts and other FileMaker goodies. If you want to build the game yourself, check out the FileMaker scripts we created and examine the rest of our database handiwork on The Disc. Now shuffle the deck and get ready to have some database fun!



Find a demo of FileMaker and our FileMaker databases that compose the finished game of Crazy Eights on The Disc.

Let's Relate

When you design a relational database, you usually encounter three types of objects: simple information sources, such as contact databases; organizational databases that structure information; and user interfaces through which people interact with the database. We used all three types to create our card game:

The Deck

You need to compile a straightforward list of the 52 cards that make up a standard deck as the foundation of your database (see "The Deck," p38). It should include the name, suit, rank, and value of each card, plus a picture of the card and an identification number by which the database can refer to a specific card.

The deck is just that:
a set of descriptions of the usual 52 cards.

Deck			
ID	Suit	Rank	Name
0	Spades	Ace	Ace of Spades
1	Spades	Two	Two of Spades
2	Spades	Three	Three of Spades
3	Spades	Four	Four of Spades
4	Spades	Five	Five of Spades
5	Spades	Six	Six of Spades
6	Spades	Seven	Seven of Spades
7	Spades	Eight	Eight of Spades
8	Spades	Nine	Nine of Spades
9	Spades	Ten	Ten of Spades
10	Spades	Jack	Jack of Spades
11	Spades	Queen	Queen of Spades
12	Spades	King	King of Spades
13	Hearts	Ace	Ace of Hearts
14	Hearts	Two	Two of Hearts
15	Hearts	Three	Three of Hearts
16	Hearts	Four	Four of Hearts
17	Hearts	Five	Five of Hearts
18	Hearts	Six	Six of Hearts
19	Hearts	Seven	Seven of Hearts
20	Hearts	Eight	Eight of Hearts

- A simple database to represent the cards themselves.
- Organizational databases to keep track of the piles and hands of cards.
- A user interface that lets players actually play the game.

Here's an overview of the different databases constituting the game.

The Human and Computer Hands

To store the hands of both human and computer players, you'll create two databases that simply keep track of card ID numbers. You must create a relationship between each hand and the deck (see "The Hands," p39), since the hands need to retrieve each card's rank, suit, and other information from the deck database.

DrawPile			
Card ID	Card Suit	Card Rank	Card Name
25	Hearts	King	King of Hearts
42	Diamonds	Four	Four of Diamonds
49	Diamonds	Jack	Jack of Diamonds
19	Hearts	Seven	Seven of Hearts
30	Cubs	Five	Five of Clubs
3	Spades	Four	Four of Spades
50	Diamonds	Queen	Queen of Diamonds
33	Cubs	Eight	Eight of Clubs
37	Cubs	Queen	Queen of Clubs
0	Spades	Ace	Ace of Spades
9	Spades	Ten	Ten of Spades
43	Diamonds	Five	Five of Diamonds
4	Spades	Five	Five of Spades
29	Cubs	Four	Four of Clubs
17	Hearts	Five	Five of Hearts
20	Hearts	Eight	Eight of Hearts
26	Cubs	Ace	Ace of Clubs

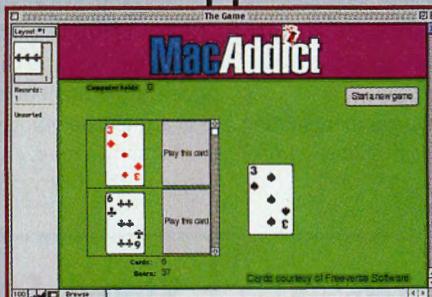
Thanks to a good shuffle, this draw pile is genuinely random.

HumanHand			
Card ID	Card Suit	Card Rank	Card Name
41	Diamonds	Three	Three of Diamonds
31	Cubs	Six	Six of Clubs
21	Hearts	Nine	Nine of Hearts
14	Hearts	Two	Two of Hearts
32	Cubs	Seven	Seven of Clubs
48	Diamonds	Ten	Ten of Diamonds

Hey! No peeking at my cards!

The Draw and Discard Piles

As with the hands, you'll build two databases containing simple lists of cards that keep track of the draw and discard piles. Make sure the game maintains the order of these piles (see "The Piles," p41); if the game doesn't keep track of which card has landed on the top of the discard pile, the next player won't know what card to play.



This is the only database users will see—a friendly (if somewhat silly-looking) game of Crazy Eights.

The Rules of the Game

Before you even start building a database, it's important that you understand your card game's rules. The object of Crazy Eights is to be the first player to discard your entire hand of cards. Each player starts with seven cards (or five in games with more than two players, but here you just duel the computer, mano a Mac-o). The dealer turns over a card from the draw pile to start the discard pile. Players alternate turns and can discard any card in their hand that matches the topmost card of the discard pile in either rank or suit. The only

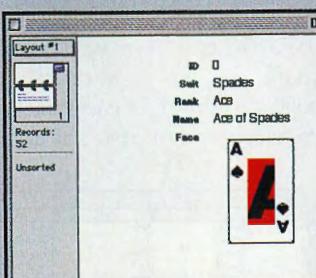
exception is eights, which players can lay down at any time. When players lay down an eight, they can change the suit to one that will allow them to play out as many of their own cards as possible. If players have absolutely no playable cards, they must draw cards from the deck until they pick up a playable card or until the draw pile runs out. When that happens, players add the values of the cards in their hands (aces count as 1 and face cards as 11), and the player with the lowest score wins the game and can declare Crazy Eights superiority.





The Deck

Unfortunately, creating any database involves some grunt work in the form of typing lists of information. The first database you'll need to create is a 52-element database called the *deck*, which stores basic information about each card and provides this info to the other databases. In FileMaker, you link two databases by defining a relationship between a field in one database and the same field in another—in this case, the common field is an ID number between 0 and 51. Once you number the cards in the deck database, the other databases simply store these ID numbers, and can then look up any other information



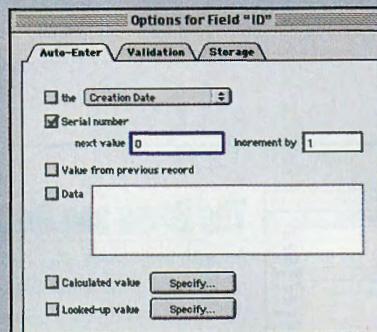
Here's a typical entry in the deck database. Yes, we gave up on drawing the cards ourselves!

on those cards in the deck database via the relationship you have set up.

To assemble the deck database, you create fields for rank, suit, name (for example, *Ace of Clubs*), picture, value, and ID. Thankfully, you can get the program to enter all of this information for you instead of tediously typing it in yourself. Unfortunately, you must paste in pictures of cards one by one—but it's still a sight better than reliving your days as a data-entry temp. Here's how to get FileMaker to do as much work as possible for you.

Step 1. Fill In the ID

To start, you'll want the numerical ID field to fill in automatically as you create records. Choose Define Fields from the File menu and create a Number field named *ID*. Next, click the Options button. By clicking the Serial Number check box in the window that appears, you tell FileMaker to enter numbers sequentially. Just set the first number to 0 and the increment to 1, and FileMaker will cheerfully begin counting as you create new records. All you have to do now is delete the automatically created first record, then choose New Record (or press Command-N) 52 times to create the cards.

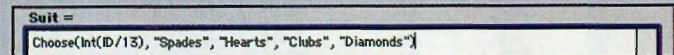


Clicking the Options button in the Define Fields box gives you a variety of options for automatically entering data into each field.

Step 2. Set Up the Suits

Now it's time to store the suit (hearts, clubs, diamonds, or spades) for each card. Create a new field of the Calculation type and name it *Suit*. After you click Create, enter the calculation shown in the image at right. Set the Calculation Result Is pop-up menu to Text. The calculation relies upon a FileMaker function called *Choose*, which tells FileMaker to pick an element from a list you provide.

In a calculation, you supply *Choose* with an item number (starting with 0) and a list—this tells FileMaker to use a specific element from that list. For example, *Choose(0, "A", "B", "C")* tells

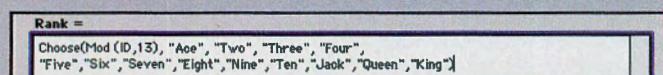


This calculation makes the first 13 cards spades, the next 13 hearts, the next...you get the idea.

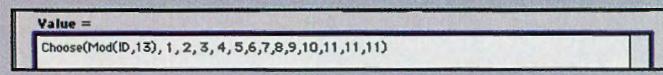
FileMaker to use an A, while *Choose(2, "A", "B", "C")* tells FileMaker to use a C. By dividing the ID number by 13, then dropping the remainder, you can get a number between 0 and 3 for each of the 52 cards in the deck (cards from 0 through 12 get a 0, 13 through 25 get a 1, and so on). Using this number in a *Choose* function, as in the script shown here, automatically sets the suit of the first 13 cards to spades, the next 13 to hearts, and so on.

Step 3. Assign the Rank and Value

To figure out rank and value, you'll create two Calculation fields and then take advantage of the Mod function using the scripts shown below. Mod is short for *modulo*—a high-falutin' mathematical term meaning "remainder." By combining Mod and *Choose*, you can make a series of ranks and values repeat with every set of 13 cards.



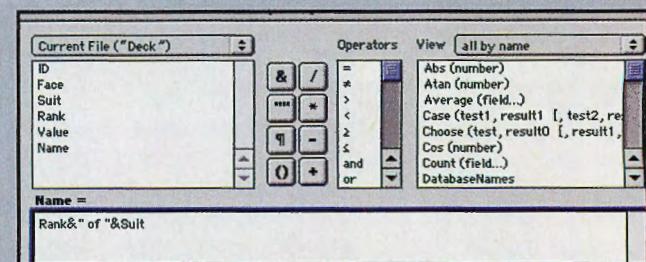
By replacing the division with a remainder (Mod) function, you can create a repeating set of assignments.



Working out the values is just as easy as assigning the ranks.

Step 4. Glue Together the Names

Finally, create a field to store the name of each card. Since all these names take the form *Rank of Suit*, you can generate them with the calculation shown below.



Don't forget the spaces on either side of the word *of*, or your cards will end up with weirdly compressed names like *JackofClubs*.



The Hands

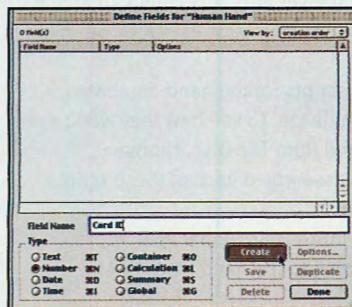
You created a database with all of the basic information. Now it's time to move on to the next tier of the game—the hand of cards each player holds. You don't actually need to store too much information here—once you store the ID number, the hand databases



can retrieve the rest of the information they need from the deck databases. Since the two hand databases (computer and human) are identical, you can create one, then duplicate and rename it to create the other (name them *ComputerHand* and *HumanHand*, respectively).

Step 1. Create the Related Field

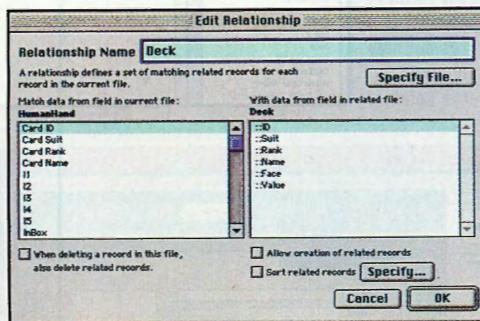
Create a single field of type Number and call it *Card ID*. You'll connect Card ID to the ID field in the deck database.



This unassuming little Number field is your ticket back to the deck.

Step 2. Enter a Relationship

Now you need to relate your new databases to the deck. Choose Define Relationships from the File menu. Click New, then choose the deck database. Click the fields in each database that store the same information (in this case, the deck's ID field and the hand's Card ID field), then click OK. You should now be able to access information from related records in Layout mode (brought up by Command-L, this mode lets you change a database's appearance instead of just entering data) and in calculations.



This relationship lets the hand database look up information about cards from the deck database.

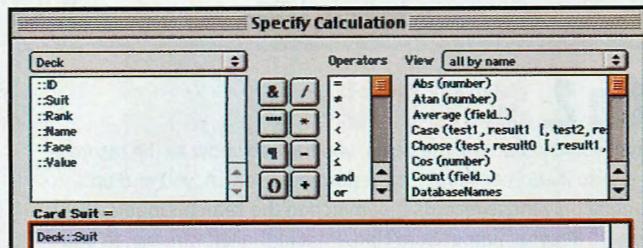
What Is a Global Field?

You couldn't consider your database a game if it didn't contain at least a few scripts—only masochists actually enjoy playing games that require carefully entering data into fields. In addition, the game database (the database that actually looks like a game of cards) must be able to control the decks and hands. In this situation, the scripts you'll write need information beyond what is available from within each individual database. The scripts you build need to:

- Store what rank and suit you can play at any given time.

Step 3. Reach Through the Relationship

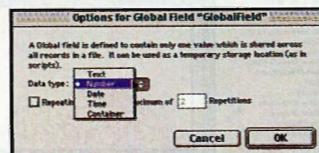
Once you've defined a relationship between the two hands and the deck, you can quickly grab the rest of the information about the cards using calculations. Create four fields of type Calculation and name them Card Name, Card Value, Card Rank, and Card Suit. In each calculation, select Deck from the pop-up menu above the variable names, and select the corresponding field from the deck.



By choosing Deck from the pop-up menu above the list of fields, you can assign the fields you want to link from the related deck database.

Step 4. Relate to the Game

Since the game's user interface will be running both hands, you need to make both databases controllable through scripts (see "Scripting," p40). Before creating the scripts themselves, however, you must create *global fields*—places in the database where the scripts store the information they need to do their jobs. Just click the Global radio button when you define fields, then set the pop-up menu in the subsequent dialog box to whatever type of information you want the script to store. Create Global fields *I1* through *I5* (that's a capital *I*, not a lowercase *L*), and set Data Type to Number. You'll also need to create some other Global fields: *NumberOfCards*, *InBox*, and *OutBox* (set Data Type to Number), as well as *SuitNeeded* and *RankNeeded* (set Data Type to Text).



When you create a global field, this dialog box lets you choose the type of information that field will store.

- Tell the game database whether the player can legally play a card.
- Tell the game database the number of cards in each hand.
- Provide a mechanism to pick up and discard cards.

You can store your scripts' data in *global fields*, which resemble normal fields, with one key difference: A Global field isn't tied to any individual record; instead, it stores a single value for the entire database it sits in. As a result, you needn't worry about the value changing as the script moves from one record to another.



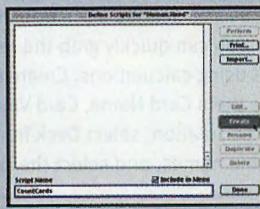
Scripting

OK, let's cut to the chase—making FileMaker play cards will take quite a bit of coding. You'll need scripts to shuffle the deck, to let the computer play during its turn, to handle the movement of cards from

Step 1. Start in ScriptMaker

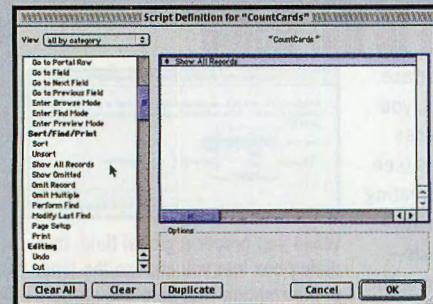
In either of your hand databases (you can duplicate the database for the other one later), choose ScriptMaker from the Scripts menu. Type CountCards under Script Name, then click Create. A new dialog box will open, bringing up a sample script—go ahead and delete that sucker.

ScriptMaker may become all too familiar a sight if you work on many complex databases.



Step 2. Show It All

Before you try counting the cards, you have to show all the records—otherwise if another script just performed a search, you end up counting only those records that matched the search. Double-click Show All Records (under Sort/Find/Print in the left window) to add this command to the script. Unlike most other programs with scripting capabilities, FileMaker doesn't let you type scripts directly—instead, you double-click individual commands to add them.



Double-click the Show All Records command, and poof—FileMaker adds that command to the script.

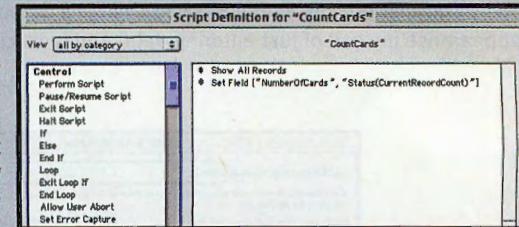
your hand to the discard pile, and so forth. But don't worry—we'll start simply. Here you'll construct a script that counts the number of cards in the hand; you can find the rest in the HumanHand database on The Disc.

Step 3. Count 'Em

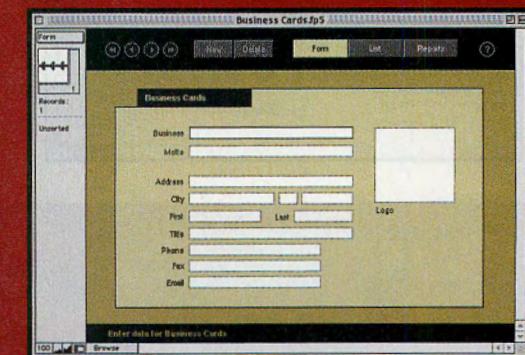
Next, you'll have to store the number of cards in the Global field named NumberOfCards. Double-click Set Field (under Fields in the left window), click Specify Field, and choose NumberOfCards. To actually count the cards, click Specify, then type **Status (CurrentRecordCount)** in the calculation dialog box.

You need to produce four more scripts for the hand databases: GetCard, GiveCard, CanIPlay, and Initialize. To see how they work, open either HumanHand or ComputerHand from The Disc, choose ScriptMaker, and examine how we assembled each of these scripts. Here's an overview of what they are:

- GetCard takes a single card from InBox (this Global field temporarily stores cards) and adds it to the hand (see "Get In First," p41.)
- GiveCard takes a card out of the hand depending on how you've set OutBox (this Global field stores a card that a script in another database wishes to remove from the hand)—as the first card, the last card, or a specific card.
- CanIPlay checks to see if at least one valid play exists, given SuitNeeded and RankNeeded (two Global fields that the user interface can set to tell the hand databases which cards they can legally play).
- Initialize clears the hand.



You've now finished the simplest script in the game—it just figures out how many cards the player is holding.



FileMaker's Business Card template makes extensive use of scripts.

actually writing a program to accomplish it seems like a stretch, you may be able to poke, prod, and twist some other application into doing what you want (this article is a case in point).

Three Reasons to Learn How to Script—Now!

1. Better User Interfaces

If you write scripts for some of the tasks you perform frequently with FileMaker, you can assign buttons to these tasks in Layout mode and make your database rock hard. FileMaker's built-in database templates provide good examples of these types of scripts.

2. Automated Common Tasks

If you find yourself repeating a series of steps often (for example, finding all records after a certain date), stop torturing yourself and write a script.

3. The Odd and Unusual Project

If you've got some slightly out-to-lunch task you want to do, but



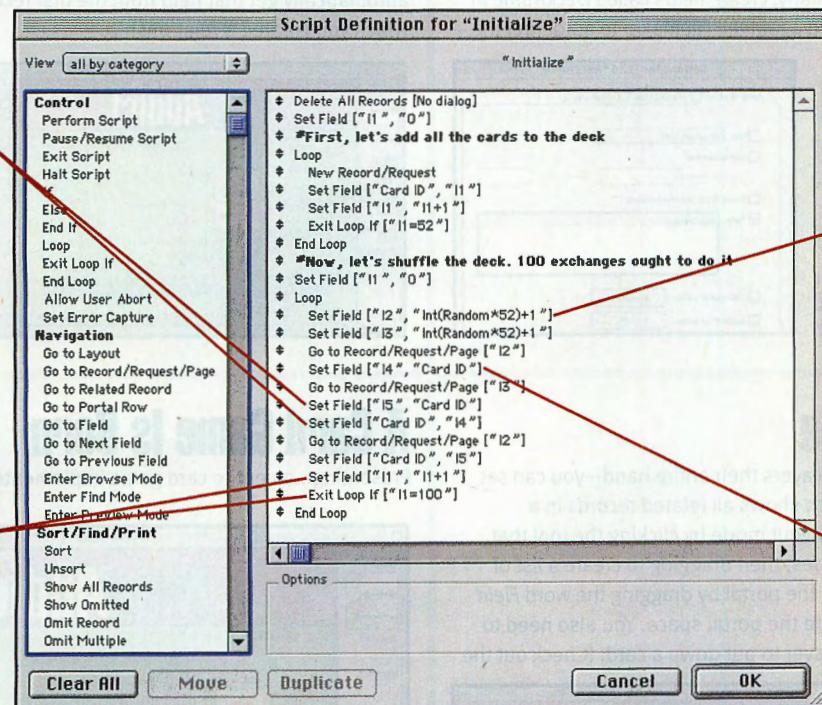
The Piles

The piles databases are superficially similar to the hands—they're lists of card identification numbers that allow players to control cards via the user interface. Nonetheless, there are substantial differences. For one, the order in which cards appear in these databases is important. In the case of the draw pile, you need a way to shuffle the deck into a random order. In the case of the discard pile, the database must consistently keep track of what's at the top of the pile. If the wrong card ends up on top of the discard pile, you won't be playing *Crazy Eights*!

Since the piles are so similar to the hands, you can create them by duplicating the hand databases in the Finder, then renaming them. The discard pile doesn't take any extra work—the *GetCard* script

automatically puts cards into the first position in the database.

Unfortunately, you have to rewrite the *Initialize* script for the draw deck. That's because the draw pile starts as a simple list of ID numbers from 0 to 51—if you left the cards in that order, the game would be incredibly dull! You need to solve this problem the same way you'd solve it with real cards—by shuffling the deck. Fortunately, you can simulate shuffling by exchanging pairs of cards until the deck is totally randomized. This isn't hard—just set *l2* and *l3* (two of the general-purpose Global fields you created earlier) to random numbers between 1 and 52. All you need to do is swap the Card ID numbers of record *l2* and record *l3*. Confused? Let's dissect the shuffling script to see how it works.



Because a FileMaker script can only see one record at a time, use *l4* and *l5* to temporarily store the card ID numbers during the swap.

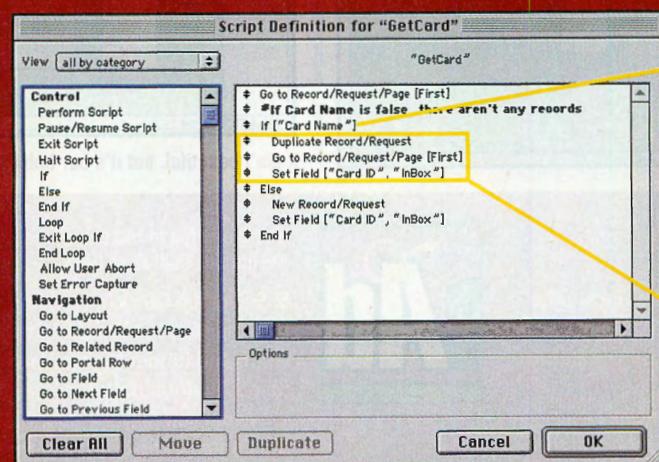
If you're not careful, FileMaker will cheerfully shuffle cards forever. These two lines use *l1* to count the number of interchanges and stop the shuffle after 100 swaps.

Random returns a number between 0 and 1. When you multiply it by 52, you get a random number between 0 and 52. Taking the integer part (for positive numbers, this is the same as rounding down) gives you a random integer between 0 and 51.

You need to tell the game to remember what card was in the record before the swap. Save Card ID by copying it to *l4*.

Get In First

It's crucial that the discard pile keep tabs on the cards that players lay down—otherwise the game simply wouldn't make sense. Let's look at the *GetCard* script, which carefully puts the last card that the pile receives (in the case of the discard pile, that's the last card played) in the first position in the database.



If the database is empty, then the Card Name field will be empty, and If ["Card Name"] will skip all the commands between If and End If.

This vaguely clever trick lets you put the new card in the first position—instead of creating a new record, it duplicates the first record, then puts the new card into the first position. The result? The new card is at the top of the pile, the former first card is immediately underneath it, and the rest of the pile follows.



The Game



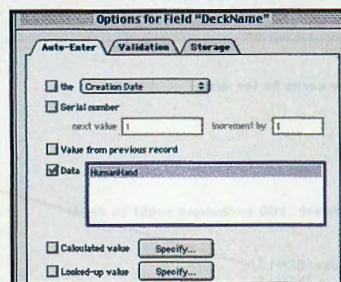
Now that you've set up the game's infrastructure, you need to create one last database and name it *The Game*. This database will tie everything together and present the player with a nice, familiar game of cards. It contains a single record and displays just the cards in

the human player's hand, the card at the head of the discard pile, and the number of cards the computer holds. It also contains the actual scripts that manage the game itself. Here's how to construct your game database.

Step 1. All for One and One for All

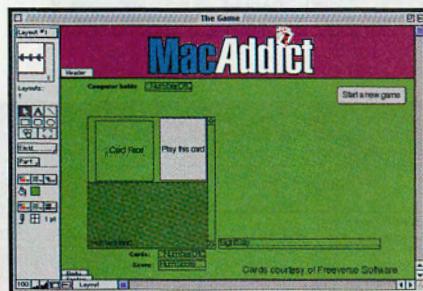
The game database uses *many-to-one relationships*—this means you'll create fields to link the one record in the game database to every record in the hand and pile databases. To avoid making silly typos, click the Options button when you create the fields, then click the Data check box and type in some word or phrase that describes the hand or pile (*HumanHand*, for example). Similarly, create fields called *DeckName* in the hand and pile databases, and again tell FileMaker to autoenter the same word or phrase you used in the game database. To figure out exactly what fields you need to create, open the game database from The Disc and select Define Fields for a list.

Tell FileMaker to autoenter a word or phrase in the *DeckName* fields, and you'll avoid debugging later.



Step 2. Portal Me

The user interface has to show players their entire hand—you can set this up by creating a *portal*, which shows all related records in a scrolling list. Create a portal in Layout mode by clicking the tool that looks like a square with open sides, then dragging to create a list of rows and columns. Add fields to the portal by dragging the word *Field* on the left side of the window into the portal space. You also need to add a button that allows your player to put down a card. (Check out the database on The Disc to see how this complex script works.)



This is the portal to *HumanHand*, which shows the *Card Face* field from that database.

Sounds Like...

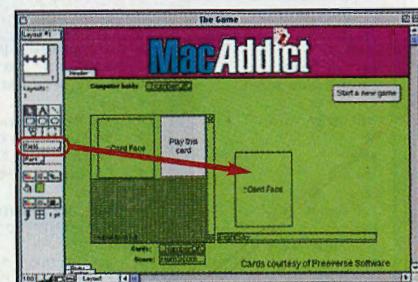
No card game would be complete without a shuffle sound and a nice, satisfying flip sound as players lay down cards. To play a sound in a FileMaker database from within a script:

1. Save the sound as a QuickTime movie.
2. Create a Global Container field for the sound.
3. Go into Browse mode (Command-B) and click the Container field.
4. Choose QuickTime from the Insert menu.



Step 3. Discard One

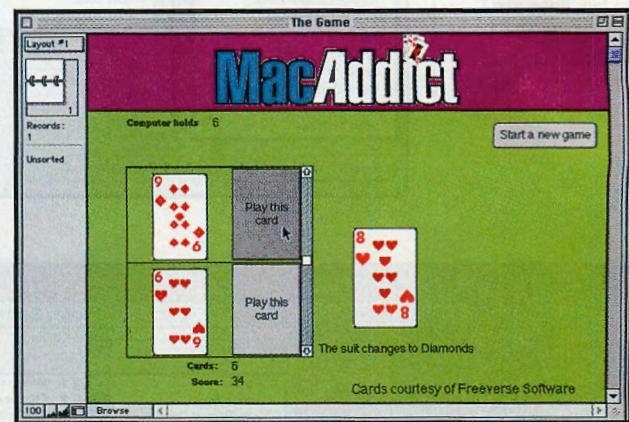
Finally, make sure the game will show only the top card in the discard pile, not the entire pile. In Layout mode, use the Field tool on the left side of the screen to drag a new field into the game interface. In the dialog box that appears, specify the related field (in this case, *Card Face* from the discard pile) that you want to display. You'll automatically get that field from the first record in the database with which you created a relationship.



To add a related field to the database, first drag the word *Field* to the interface area where you want that field to appear.

A Card Game Is Born

Presenting...an entire card game implemented in FileMaker!

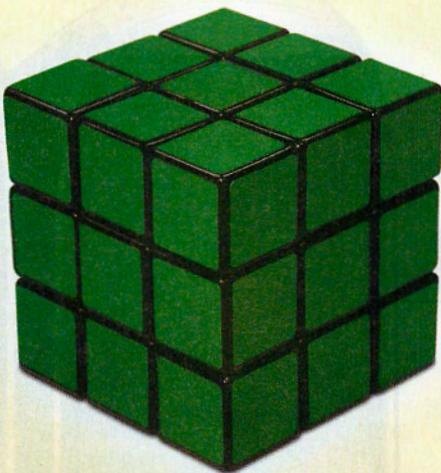


It ain't beautiful, but it's our baby.

See the notch at the end of the *A* in the *MacAddict* logo? That's where we hid our Container field.

5. Select the QuickTime movie.
6. In the script you're using to add the sound, use the Go To Field command (under Navigation) to go to the Container field. Click the Select/Perform button to play the sound.

When you play the sound, the QuickTime controls will appear in the Container field. To hide these, select the Container field in Layout mode, set its text size to 1, then hide it within a graphic. A tiny flicker still gives away the field's location, but it's not too bad.



At REAL Software, we like it simple. Take our award-winning product, REALbasic, for example. People call it the powerful, easy-to-use tool for creating their own software for Macintosh, Mac OS X and Windows. We call it a problem solver. You've probably said, "Wouldn't it be great if there was a little application that..." REALbasic fills that blank.

Creating applications couldn't be easier. Just drag and drop interface elements while REALbasic handles the details. You concentrate on what makes your stuff great — your ideas!

It's easy to use and it's powerful. Beginners and professionals alike can build software using a single, simple design. REALbasic compiles native applications for Macintosh, Mac OS X and Windows without requiring any platform-specific adjustments. Each version of your software looks and works just as it should in each environment. REALbasic even supports the new

Aqua user interface on Mac OS X!

Complex problems shouldn't require complex solutions. The answer is REALbasic.



Download a free demo. www.realbasic.com

reviews

Start counting your pennies...

G4 System Showdown

hardware

Power Macintosh G4/733

Company: Apple

Contact: 800-795-1000 or 408-996-1010, www.apple.com

Price: \$3,499

Specifications: 733MHz G4 with 256K L2 cache and 1MB L3 (backside) cache, 256MB of RAM, 60GB hard drive, SuperDrive, 56-Kbps modem, 10/100/1000Base-T Ethernet, two FireWire ports, headphone audio out, powered speaker out



FREAKIN'
AWESOME!
The most valuable
products, the
coolest gizmos.

Power Macintosh G4/533

Company: Apple

Contact: 800-795-1000 or 408-996-1010, www.apple.com

Price: \$2,199

Specifications: 533MHz G4 with 1MB L2 (backside) cache, 128MB of RAM, 40GB hard drive, CD-RW drive, 56-Kbps modem, 10/100/1000Base-T Ethernet, two FireWire ports, headphone audio out, powered speaker out



SPIFFY
A solid offering.
Overall a good
investment.



YEAH,
WHATEVER
Neither
recommended nor
rejected. Some
might like this,
but we weren't
impressed.

The problem with hyping exciting new products is that the announced products have to indeed be ever more exciting than the predecessors. If each new product isn't a whole lot shinier than the last, it leaves the impression that the new hardware is something less than it should be. And that's



PHOTOGRAPH BY AARON LAYER

Inside these towers lurk either a 733MHz G4 or a 533MHz G4 chip—it's impossible to tell from the outside.

the problem with the new Power Macintosh G4 line. The new models seem to be nothing more than a good-size evolutionary step in an established product line. Then again, taken out of this context, both the G4/733 and the G4/533 are awesome Macs with plenty of power to spare, plus a couple of unique features that really set them apart. (Note: Although we requested one for review, we didn't receive a dual-processor 533MHz G4 by press time.)

The Power Mac G4/733 is a speed demon built with Mac OS 9 in mind, and it's simply the fastest Mac ever. With its brand-new G4 chip, which runs at record-breaking speed and also includes more cache and a revamped AltiVec unit, the 733MHz G4 is the fastest Mac we've ever tested. Measuring it using Norton System Info's group of processor, disk, and video benchmarks was an education in speed—the system scored hundreds of points

Five Tips for iDVD



BLECH!
Give us back the
time we spent
testing this.

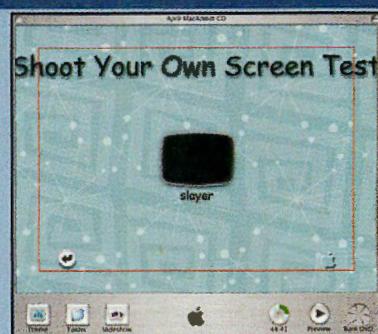
Although iDVD makes DVD creation a breeze, there are a few things you should know.

- Watch the title length. If your movie, slide show, or folder titles are too long, they'll overlap one another on your DVD's root directory or other screens.
- Be aware of the image limit. Each slide-show element on your DVD can only contain 99 images, so if you want to include a lot of images using iDVD, you'll need to create several separate shows.

• Use only QuickTime movie files. If you try to use MPEG files, for example, iDVD won't recognize them.

• Watch your TV safe zone. iDVD will display a red box that shows the area guaranteed to show up on any TV. Keep titles and other goodies inside this box to ensure visibility.

• Preview your DVD. Before you commit to burning a DVD (the media are pretty expensive), click the Preview button and give your DVD a good workout with the virtual controller.



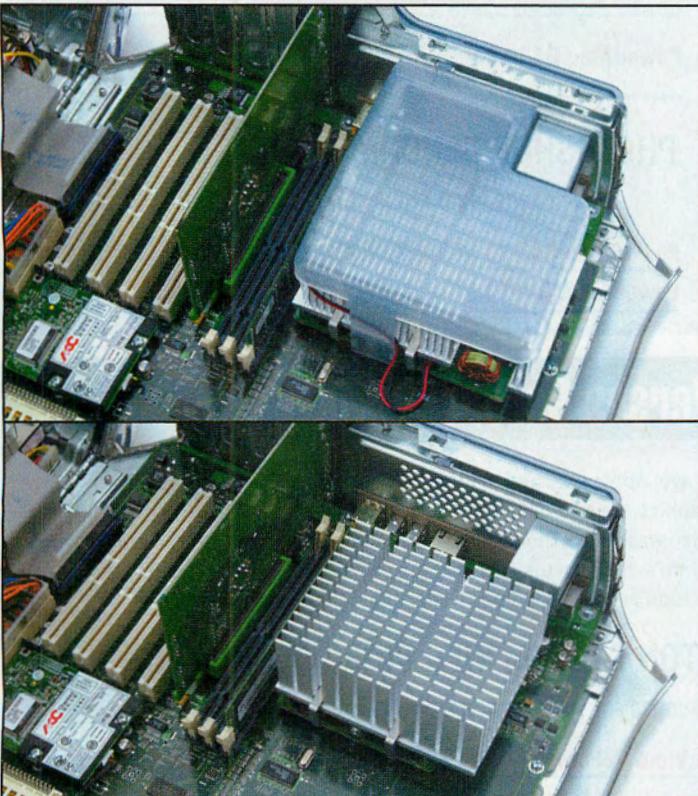
Keep your titles inside the red square, or you may be asking for trouble.

higher than other Macs we've tested. Getting away from the numbers (see "Speed Kills," p46 if you're not quite ready to leave this topic), the 733MHz Power Mac just feels snappier than any other Mac we have in the building.

And it's a good thing, too, because the SuperDrive in this model needs all the horsepower it can get to burn DVDs. This new optical drive (which takes its name from the late-eighties floppy drive) reads and writes both CDs and DVDs, and our model performed flawlessly. With it, we created audio CDs and a video-compilation DVD, complete with several video clips and a slide show, using the bundled iDVD software.

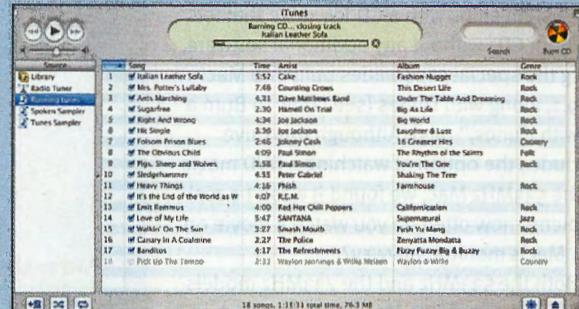
iDVD is quite a feat of engineering. It allows you to bypass the messy job of laying out a DVD, a daunting task even for professionals. Instead, you click a few buttons, drag a few video clips and still files onto the main interface, type a few words, and you're ready to burn your own DVD disc (see "Five Tips for iDVD," p44). On our system, it took twice as long to burn the DVD as it did to play its contents, a process that relies heavily on the G4's Velocity Engine to speed things up. Without Velocity Engine support, burning a DVD might take several times longer. Our DVDs burned perfectly and played well on the commercial DVD players we tried. (Some readers have reported that

Check out the size of the 733MHz G4 heat sink (top), which sports a cover to actively cool the chip. That's because the 733MHz uses a new version of the G4 chip that puts out more heat than the slower, cooler 533MHz machine (bottom).



How to Burn a CD with iTunes

Most of the new Macs feature optical drives that let you burn CDs, whether that's using the CD-RW or the newfangled SuperDrive. Here's a quick tutorial on burning an audio CD with iTunes.



After doing a bit of preparation, iTunes burns your music to CD. If your playlist is too long, the items at the bottom will be grayed out and won't burn. Poor Waylon.

Step 1

Open iTunes and create a new playlist with the songs you want to burn to CD. Make sure the total time of your playlist doesn't exceed 70 minutes, or the songs at the end won't get burned to CD.

Step 2

Click the Burn CD circle to reveal the Burn CD button. Click it again, and iTunes asks for a blank CD. Insert one, and it begins burning your audio CD.

Step 3

Burning a CD with iTunes can take a long time. First, iTunes has to convert the MP3 files in the playlist you're burning back into AIFF format—the native file format for audio CDs—and this can take a while, even on these new machines. Once that's done, iTunes burns the AIFF files onto the blank CD-R, which can also take some time, depending on the speed of the drive. Expect a full CD to take half an hour or so.

Step 4

Done! Pop your audio CD into a player and start groovin' to your tunes.

audio

DISCRIBE 4.0 P50
TOAST TITANIUM 5 P51

fun & games

HEAVY METAL FAKK 2 P58

design & graphics

PHOTOSHOP ELEMENTS P48
AMORPHIUM PRO P52
PHOTOIMPRESSION P57
EXPRESSION 2 P60

multimedia

DVD STUDIO PRO P56

hardware

APPLE 733MHz G4 P44
APPLE 533MHz G4 P44
HP PHOTOSMART 912 P47
PLANTRONICS DSP-500 HEADSET P50
THRUSTMASTER TOP GUN
AFTERBURNER JOYSTICK P53
ATI RADEON PCI MAC EDITION P55
QUE M2 10GB FIREWIRE DRIVE P59

productivity

REALBASIC 3.0 P54
NISUS WRITER 6.01 P58

infotainment

DRIVER-ZED P61
TOPO INTERACTIVE MAPS P61
BLUES GUITAR LEGENDS P61

certain DVD players won't play discs burned in this way, but we didn't encounter any problems.)

The Power Mac G4/533 holds its own surprisingly well against the 733MHz version, even though the faster unit has an improved G4 chip that the 533MHz doesn't. Currently, this system ships with a CD-RW drive that lets you burn CDs without any additional software, using the special capabilities built into Mac OS 9.1, along with iTunes (see "How to Burn a CD with iTunes," p45). Although this drive precludes the option of watching a DVD movie on the 533MHz Mac, we found it wasn't a real problem—how often do you watch a movie on your Mac's monitor, anyway?

Both the 533MHz and the 733MHz models feature the new (to us Mac users, anyway) nVidia GeForce2 MX graphics card with 32MB of video memory. This card represents the low-end offering from nVidia, and it's just good enough to match the fastest offering from ATI—the Radeon. Though, the nVidia card holds its own, it doesn't blow the Radeon out of the water. For the best graphics available, you'll have to wait until the GeForce3 becomes available later this year.

In both models, the optical drives take advantage of Mac OS 9.1's ability to burn CDs without using third-party software. Just drop a blank CD-R or CD-RW in the drive, and your Mac asks if you want to prepare the disc for burning. If you say yes, your Mac creates a disc image for you. When you eject the blank CD (which starts the burn process), the Mac asks if you want to burn the disc image to CD before doing so. You can only burn once, though—this isn't a multisession technology.

There's little *not* to like about the new line of Power Macintosh towers. They're fast, they're solid, and they have wonderful new abilities. The 733MHz version is a little on the pricey side, but that's what you get when you're playing with the best hardware around, plus a DVD burner to boot. If you're in the market for a new Mac, this is a good time to buy. —David Reynolds

Power Mac G4/733

good news: SuperDrive, SuperDrive, SuperDrive. Fast graphics. Generally zippy performance (no, not the pinhead).

bad news: Pricey. No audio in.



Power Mac G4/533

good news: Lots of power for the price. CD burning works great. Fast graphics.

bad news: No audio in. Just doesn't spark the imagination.



Speed Kills

Yeah, yeah—all that touchy-feely stuff is great for those who give a tiny rat's butt, but what some folks *really* want to know is how fast these beasties are. We tested our systems using three benchmarks: Norton SystemWorks' System Info, a suite of Photoshop actions, and frame rates in Quake III: Arena. Our results were not surprising—the G4/733 kicked ass in the first two tests, but the two machines were neck and neck in the Quake III frame rate tests, as you would expect. Here's the breakdown:

NORTON SYSTEM INFO

SCORES FOR OVERALL SYSTEM RATING (LONGER IS BETTER)

Power Mac G4/733	1,742
Power Mac G4/533	1,430
Power Mac G4/500 (reference sys)	1,287

QUAKE III: ARENA FRAME RATES

FRAMES PER SECOND (LONGER IS BETTER)

Power Mac G4/733	69.5
Power Mac G4/533	44.4
Power Mac G4/500 (reference sys)	66.1
Power Mac G4/500 (reference sys)	30.7

PHOTOSHOP BENCHMARK SUITE

SECONDS (SHORTER IS BETTER)

Power Mac G4/733	237
Power Mac G4/533	270

Radeon Versus GeForce2 MX

A few months ago, Apple switched to nVidia's GeForce2 MX video card as its choice for high-end graphics. We pitted the GeForce2 MX against an AGP Radeon card in the G4/733 to see which was faster. The results? The Radeon card edged out the GeForce2 MX in Norton System Info's 2D video tests (part of the overall system info test), while coming up with a split decision in Quake III: Arena frame rates. Here are the details:

NORTON SYSTEM INFO VIDEO BENCHMARK

SCORES FOR OVERALL VIDEO RATING (LONGER IS BETTER)

nVidia GeForce2 MX	1,126
AGP Radeon	1,424

QUAKE III: ARENA FRAME RATES

FRAMES PER SECOND (LONGER IS BETTER)

nVidia GeForce2 MX	69.5
AGP Radeon	44.4
AGP Radeon	68.0
AGP Radeon	49.9

PhotoSmart 912

hardware

Company: Hewlett-Packard

Contact: 800-752-0900, www.hp.com

Price: \$799 (SRP)

Requirements: 233MHz PowerPC processor, Mac OS 8.6 or later, 64MB of RAM, 150MB of free hard disk space, CD-ROM, USB port

We can usually tell the difference between a digital camera and a film camera at 40 paces, but Hewlett-Packard's PhotoSmart 912 digicam had us completely fooled. Though it looks and feels like a traditional 35mm film camera, its techy innards are rocky territory. Even though it packs many features useful to 35mm photographers, the 2-megapixel PhotoSmart loses out in the digital camera arena.

The PhotoSmart 912 offers a 3X optical/2X digital zoom lens and supports filters, but not optional lenses. You zoom in or out by twisting a ring on the lens as you would with a film SLR (single-lens reflex) camera. However, the zoom control is motorized, and while this may sound cool, it's difficult to adjust the lens to a precise distance—and the zoom motor unnecessarily drains the battery.

The camera often displays an "unable to focus" message in the LCD display when it can't figure out whether to focus on the background or the foreground. It offers a macro focus setting for getting really close, but this is buried deep in a menu.

Old-school looks with new-school technology...well, almost.

The dial lets you select SLR-style exposure settings, such as landscape, aperture or shutter priority, and full manual. Most of these settings are fine, but a few don't work as well as they would on a film camera. For example, the sport setting is almost useless—the shutter releases much too slowly. It's quick enough to make a sharp image, but when we tried to take pictures of a dog catching a Frisbee, the pooch was well out of the frame by the time the shutter clicked.

The LCD panel on the back of the camera streaks even in weak sunlight, and it tracks moving subjects slowly. You can unlatch the panel and swing it up so you can see it while holding it at waist level, though it won't rotate into a position where you can see it if you're in front of the camera (for a self-portrait, say). However, if shooting your own mug is important to you, you'll find the tiny shutter-release remote helpful.

Most of our shots turned out adequately sharp, but we've seen better results from other digital cameras. We took many shots and compared them side by side with ones from a Nikon Coolpix 800—a 2.1-megapixel camera. The HP images were a touch too warm and came out less sharp than the Nikon ones. The indoor images we took with the flash looked somewhat overexposed. Overall, the 912's images rate as good, but not great.



PHOTOGRAPH BY AARON LAUER

The 912 feasts on batteries. We shot only one 16MB CompactFlash card full of images before the included set of four AA photo-lithium batteries died. The camera draws so much power that it's hard to use it without feeling paranoid about the possibility that your batteries might die in midsession. A high-capacity rechargeable Li-ion battery costs \$99: buy one.

One bright spot—you can easily connect the camera via a standard USB cable to your Mac (or a PC, in a pinch) with no software required. The camera acts as an external disk drive and shows up on your desktop as such.

Though the PhotoSmart 912 is a gorgeous, built-like-a-rock camera on the outside, we hope HP will improve its mechanics, fix its technological glitches, and lessen its voracious battery appetite.—Alan Stafford

good news: Operates like a real camera. SLR-style controls. Doesn't require software to transfer images.

bad news: Average image quality. Focusing problems. Eats batteries as fast as a kid munches Tater Tots.



A Day at the Park

Whimsical folks that we are, we headed off to the park to test out the PhotoSmart 912's photo-taking ability. Side by side with our trusty Nikon Coolpix 800, the PhotoSmart just couldn't keep up. Here are a few examples.



The sky is a little too blue in the HP shot, but it looks more natural in the Nikon shot.

The pavement takes on a greenish hue in the HP photo, while the Nikon photo shows the true color of aged asphalt.



Photoshop Elements

design & graphics

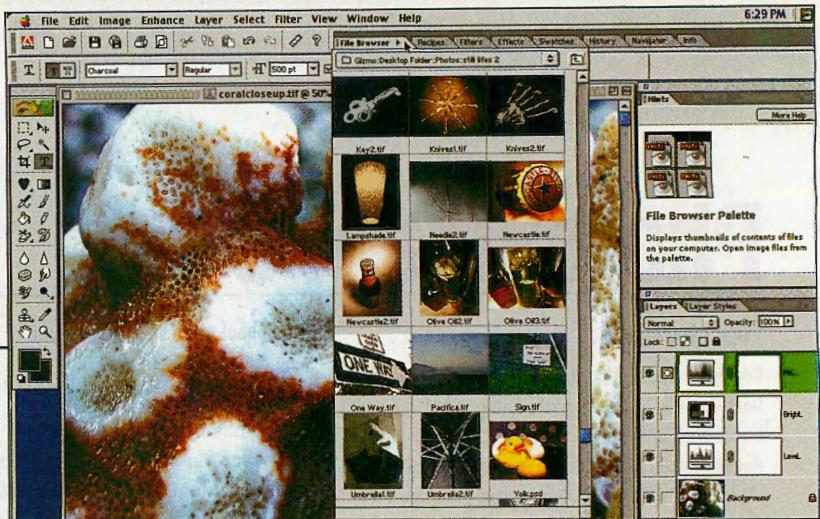
Company: Adobe

Contact: 800-833-6687, www.adobe.com

Price: \$99 (SRP)

Requirements: Power Mac, Mac OS 8.6 or later, 64MB of RAM,

150MB of free hard disk space, 800 by 600 monitor resolution, CD-ROM



Elements looks a lot like Photoshop 6.0, but it has some unique features, such as the File Browser.



Find a
Photoshop
Elements
tryout on
The Disc.

How many image editors does it take to brighten Adobe's light bulb? Counting the new Photoshop Elements software, there are now seven (including Windows apps)—though Elements replaces the amiable Photoshop LE. No need to get teary-eyed, though; Photoshop Elements picks up where LE left off, offering the best features of Photoshop proper, plus a nifty bag of extra goodies, all for one-sixth the price.

Photoshop Elements is a robust image-editing package that not only features tools to fix photos, but also contains a range of accoutrements to add artistic merit, design page layouts for print and the Web, create panoramas, produce photo-gallery Web pages, and a lot more. It includes many of the same tools found in Photoshop 6.0, and

supports multiple layers, multiple undos, and batch conversion.

A note about the installation: If you currently have Photoshop on your Mac, once you install Elements, it will kidnap the original Photoshop icon and replace it with the Elements icon, though both programs remain intact. Furthermore, all graphics files previously wed to Photoshop automatically launch Elements when you double-click them unless you grab the Photoshop 6.0.1 update, which uses the old Photoshop icon for both programs.

Sibling rivalry aside, once we explored the depths of Elements, we discovered a well-thought-out program that easily corrected our photographic mishaps. We satisfactorily corrected an underexposed photo shot in the sun, using a

combination of adjustments in the Adjust Backlighting and Fill Flash commands. If you're not inclined to do much fiddling, the Auto Levels command does a commendable job of balancing exposures and getting rid of minor color casts.

Element's clumsy Color Cast Correction tool, however, required that we do extra tweaking with Levels to set things right. Also, the lack of a layer mask feature means you must pay careful attention to background erasing when working with layer composites.

We love the File Browser, which displays thumbnails of all images in any folder from a tabbed, drop-down palette. If your image-editing skills are lacking, the Recipes palette provides helpful step-by-step instructions on performing various correction techniques, and the Hints palette walks novices through highlighted tools. More-experienced photo tweakers will appreciate the dodge, burn, and sponge tools, the Adjustment Layer options, and the Levels control.

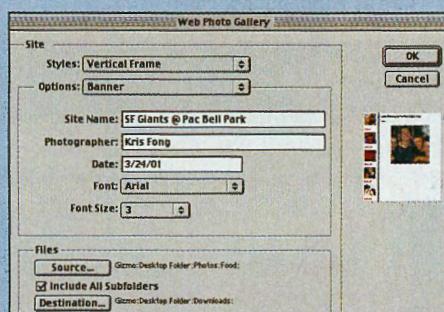
Filters and effects appear as icons in tabbed, drop-down palettes, and you can drag and drop to apply them. Beyond the usual Photoshop filter fare, there are a number of borders, frames, artistic brush strokes, and texture options from which to choose. We found the Vignette effect a welcome enhancement for our portraits.

Overall, Photoshop Elements will satisfy users of all skill levels by providing easy-to-use tools that work well for the average consumer. If you work in print publishing, Photoshop is the way to go, but for anything else, Elements is a winner.—Kris Fong

Web Portfolio Made Easy

Photoshop Elements allows you to create a simple photo-gallery Web page quickly without typing a single piece of HTML code.

1 Under File, select Automate, Web Photo Gallery. In the dialog box, choose one of the Web templates from under the Styles drop-down menu, then type in your personal information.



This window is your key to whipping up a killer Web portfolio of images.

2 Set the desired photo and thumbnail display sizes and choose Web page colors from the Options drop-down menu. Next, click Source to select a folder of images, click Destination to select where to save the Web page, and then click OK.

3 Elements will then compile all of your images in the Source target to create an HTML document. When this process is finished, drag the document to your Web browser to view your new gallery.

good news: Rescues crappy photos. Features tools for all skill levels. **bad news:** No layer masks.



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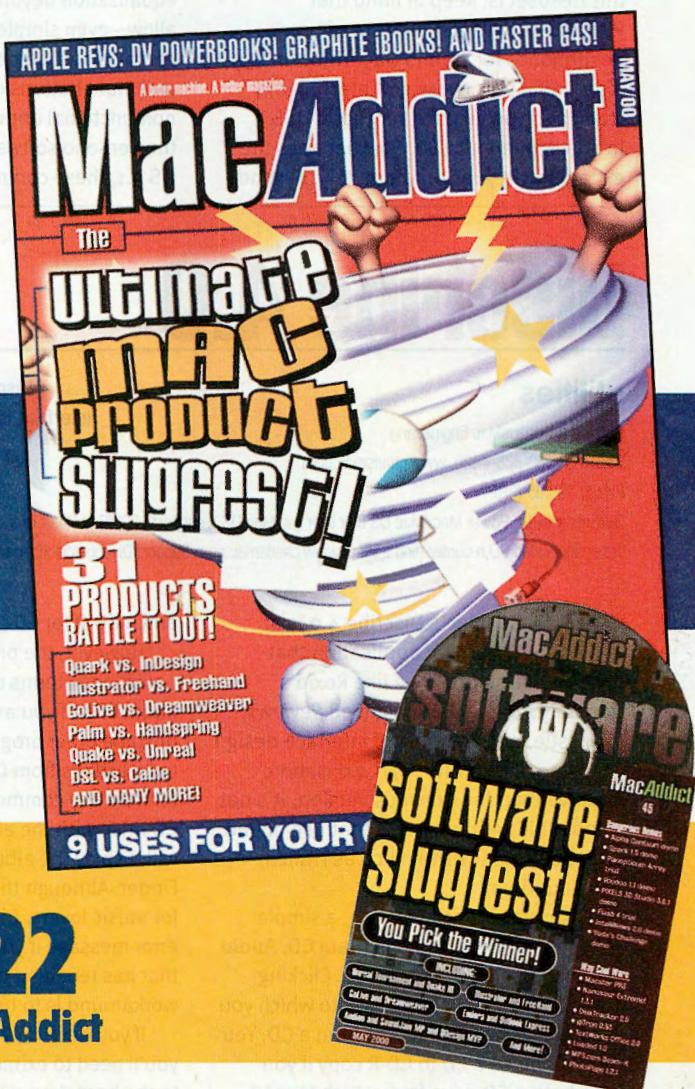
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Plantronics DSP-500 Headset

hardware

Company: Plantronics

Contact: 800-544-4660, www.plantronics.com

Price: \$139.95 (SRP)

Requirements: Mac OS 9.0.4 or later, USB support

At first sight, the Plantronics DSP-500 looks like a nifty gadget. Unfortunately, the headset's high price and poor software support make it impossible to recommend.

It's hard to overstate just how overpriced this headset is. Keep in mind that Plantronics sells a similar set of headphones for around \$45. Throw in \$35 for a Griffin iMic (www.griffintechnology.com) and you've got a very good USB headset for about \$80. So what does the extra \$60 get you? Unfortunately, beyond

Wow, what a comfortable set of headphones!
How much do they cost again?

a copy of Audion that you could just download, the only difference we could find was the PerSono software package.

The Mac version of PerSono is half baked. The software lets you choose among seven equalization presets for output and four for input, and it enables you to set individual volume levels. It also serves as a launcher for your audio applications. However, you can't customize the equalization beyond what the presets allow—even simple bass and treble controls are missing. The headset includes volume and mute buttons on its cord, but they are nonfunctional under Mac OS 9.0.4 unless the PerSono software is running. Under Mac OS 9.1, these controls function on their own



PHOTOGRAPH BY AARON LAUER

but are too sensitive (to be fair, this problem may not be Plantronics's).

All in all, you'd be far better off buying an analog headset (perhaps even one of Persono's—it's hardware is solid) and an iMic rather than this expensive monstrosity.—*Ian Sammis*

good news: Comfortable. Delivers good sound.

bad news: Unbelievably expensive. Mac software is perfunctory at best.



blech!

Discribe 4.0

utilities

Company: CharisMac Engineering

Contact: 530-885-4420, www.charismac.com

Price: \$99.95 (SRP)

Requirements: Power Mac, Mac OS 8 or later (no Mac OS X support), 32MB of RAM, QuickTime 2.0 or better, supported CD recorder (find a list at www.charismac.com/Support/Discribe/discribedevice.html)

Discribe 4.0's simplified interface is a welcome change.

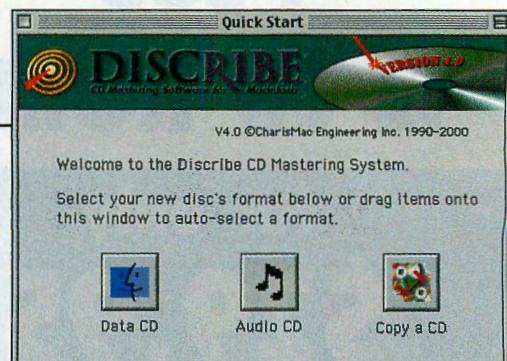
CharisMac's Discribe 4.0 is a CD-burning application that attempts to be like Roxio's (formerly Adaptec's) Toast (see *Reviews*, this issue, p51) in terms of interface design and ease of use. Although 4.0 is more intuitive than the previous version, it's not compatible with programs that use online CD databases (CDDB), such as iTunes and SoundJam.

When you launch Discribe, a simple window with three buttons (Data CD, Audio CD, and Copy a CD) greets you. Clicking Data CD brings up a window into which you can drag files and folders to burn a CD. You can also make a CD to CD-R copy if you have both a CD drive from which to read

and a CD-R (or CD-RW) drive for copying.

However, the program needs some polishing in terms of creating and copying audio CDs. If you are using Apple's iTunes or some other program that retrieves CD-track listings from CDDB, that program will rename any commercial audio CD in your CD drive with the album title, and the tracks will display the album's song names in the Finder. Although this is a welcome feature for music lovers, Discribe will give you an error message if you try to copy an audio CD that has renamed tracks. The only workaround is to turn off CDDB extensions.

If you have only one drive to work with, you'll need to extract individual audio files to the hard drive whenever you want to



make a duplicate audio CD. It would be more practical if Discribe could save an audio CD as an image file, which is essentially a copy of the original CD in a single data file.

At the most basic level, Discribe can burn CDs, but it requires you to work around some bugs—particularly when it comes to burning audio CDs. You should grab Roxio's Toast instead—it's more intuitive and has more features for the same price.

—*Andrew Tokuda*

good news: Improved interface design. **bad news:** Incompatible with nongeneric audio CD-track listing. Weak audio support for single CD-RW setups. Minor bugs.



blech!

Toast Titanium 5

utilities

Company: Roxio

Contact: 408-934-7283, www.roxio.com

Price: \$89.95 retail; \$59 upgrade if you purchased Toast 4 before January 9, 2001; \$17.95 upgrade if you purchased Toast 4 after that date

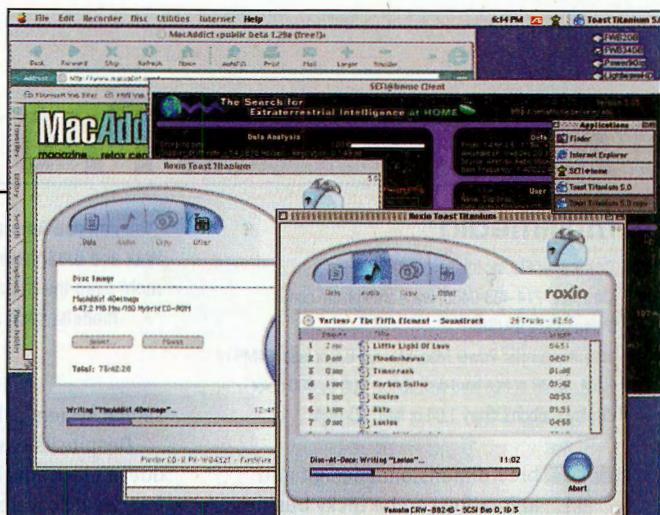
Requirements: Power Mac, Mac OS 8.6 to 9.1, 12MB of RAM (24MB or more recommended), minimum 100MB of free hard disk space, QuickTime 4.0 or later, recordable CDs or DVDs

With the introduction of Apple's iTunes and new Macs with built-in CD-RW drives, you might think there's little reason to purchase a separate application for making audio and data CDs. But burning CDs today is not the straightforward, utilitarian task it was just a few months ago. With Toast Titanium 5, you can make not only CDs but also DVDs and Video CDs (VCDs), and you can record and clean up audio from analog sources.

Toast is basically an application for burning CDs. Even with the demise (more or less) of Napster, songs in MP3 format will remain available, and Toast makes it easy to turn these songs into a CD you can play on any consumer CD player. Toast can also create backups of files and folders from your computer onto CDs. The program does these tasks well—without hassle, without bugs, and with one of the simplest and most intuitive interfaces we've seen. Toast Titanium deserves a *Freakin' Awesome* rating just for that.

The latest version of Toast adds features that set new standards in CD burning. One

With two pieces of Toast and two burners (love the puns), you can burn two CDs simultaneously.



of these is the ability to create VCDs—videos burned to CD-R media that most consumer DVD players can view (think of VCD as low-budget iDVD). This feature adds functionality to Apple's iMovie software. When you install Toast Titanium, any application that has a QuickTime export feature—including iMovie, Final Cut Pro, and QuickTime Pro Player—will have a Toast VCD file-format option. This means you can translate these movies into a VCD-compatible format, burn them in Toast, and play them on a DVD player. If you want to put a simple QuickTime movie on a VCD, just drag the file onto the application window and let Toast convert it to a VCD-compatible format—no other software required. (Note that Toast can't convert some MPEG movies via Export; you'll need a program such as Terran Cleaner 5 for this).

With the previous version of Toast, if you wanted to burn a CD you had to get up from your chair and find something else to do while your Mac burned the disc. Even with the fastest CD-R drive, a 650MB CD burn lasted for the duration of a good-size cup of coffee. Those days are over, because Toast 5 can now burn your CDs in the background. We successfully burned an audio CD while running SETI@Home (a program for analyzing telescope radio data), surfing the Web, and checking email. Long-time Toast users will find this feature an impressive addition. Unfortunately, it also means you can't use "I'm burning right now" as an excuse to avoid work.

Background burning has additional undocumented advantages. If you have two CD burners, you can make a copy of the Toast application and burn two different CDs at the same time. In our tests, we successfully burned a copy of The

Disc and the soundtrack to *The Fifth Element* while running SETI@Home and surfing. That may sound pretty astonishing to people who have burned CDs before, but Roxio claims you're not limited to just two CD burners for multiple, simultaneous burn sessions.

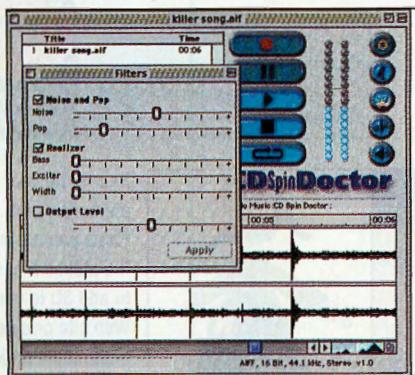
Roxio has done an amazing job with the new upgrade, and the price is just right. Anyone investing in a CD-RW should get this program. If you buy one of the new G4s with the built-in SuperDrive for DVD burning, Toast Titanium is waiting to do the job.—Andrew Tokuda

good news: VCD burning.
Background burning. Great price.
bad news: Background CD burning means you don't have any excuse to stop working!



What Are VCDs?

It's Apple's well-touted ambition to make the Mac the "digital hub" of home entertainment. Toast Titanium forwards this strategy by enabling the user to view video from a standard CD on most consumer DVD players—a format otherwise known as Video CD (VCD). What makes this format cool is that you can fit about an hour's worth of video footage (with audio) on a tiny silver platter that costs just a few cents. The drawback is the quality, which isn't very high. However, VCD is a great way to share home movies with other people who have regular DVD players, and the media cost considerably less than the cheapest VHS tape—and take up much less space.



Record your tapes and records and remove unwanted hisses and pops using the included CD Spin Doctor.

Amorphium Pro

multimedia

Company: Electric Image

Contact: 714-433-0400, www.amorphium.com

Price: \$379.99 (SRP)

Requirements: Power Mac, Mac OS 8.6 or later, 64MB of RAM, 32MB of free hard disk space, 800 by 600 color display, Carbon Library 1.04 or later, CD-ROM

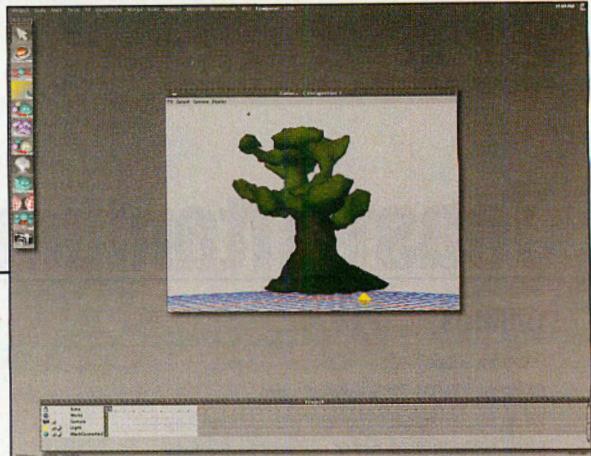


Find
Amorphium
Pro Demo
Installer 1.1
on The Disc.

Three-dimensional design and animation can be tricky business for even the most seasoned multimedia developer, and most current 3D tools are a little standoffish when it comes to welcoming newcomers. But don't despair—Electric Image's Amorphium Pro could be the software you need to start working in the third dimension. Amorphium Pro is easy to learn (though it demands patience and practice to master) and has great advanced 3D effects—Web designers will appreciate its ability to export directly to Flash animation format (SWF).

Designed with the beginning artist in mind, Amorphium Pro will instantly make sense to anyone familiar with 2D programs like Photoshop, Illustrator, and Flash. Applying paint to a 3D object, for example, is easy—just pick a color and brush it directly onto your model. Those well acquainted with Flash's animation timeline will discover that Amorphium has a very

You can use Amorphium Pro's Wax and BioSphere features to mold even the trickiest organic models, such as this tree.



similar system of keyframes and timelines.

Despite its ease of use, Amorphium Pro doesn't lack advanced 3D creation tools. In fact, we discovered quite a few features, such as wax modeling and special effects, that you won't find in some of the more expensive and intimidating 3D programs. We were especially pleased with its organic modeling capabilities, which yielded results that require years of practice to achieve in other 3D programs. Try modeling a realistic tree in most 3D software, and you'll probably end up more frustrated than comfortably shaded. But with Amorphium Pro's Wax and BioSphere features, which allow you to mold and shape objects, you can build yourself a 3D forest in no time.

Amorphium Pro scores big with its scene animation tools. Situating and animating camera angles is as easy as moving files around on your desktop. You can also set advanced lighting schemes for your scene as you would in any high-end 3D software. Amorphium Pro's environmental features, such as smoke and fog, add a sense of realism and require very little effort.

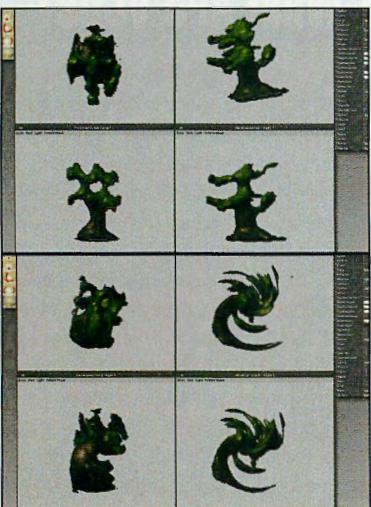
Despite this full feature set, those familiar with advanced 3D software, such as Lightwave or Maya, will find that a few key features are missing. Most noticeably absent is an inverse kinematics (IK) system (the skeleton-like feature commonly used for character animation). While you can work around this omission, it's much more difficult to animate your characters in Amorphium Pro than in most

other 3D programs. Fortunately, Amorphium Pro supports imported 3D files from programs like Lightwave (LWO files only), 3D Studio Max, and WaveFront OBJ files, so you can import complex animations like IK character movements and integrate them into your models.

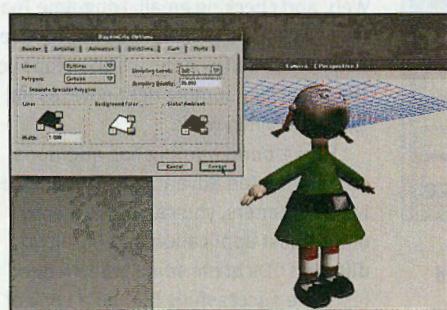
Our favorite feature in Amorphium Pro is the ability to render work directly to the vector-based Flash format. Although the original release of Amorphium Pro 1.0 has somewhat limited options for Flash exports, a free patch (available at www.amorphium.com/welcome/downloads/updates.html) includes additional shading options and numeric controls to adjust the size and color of your model outlines (a feature for giving animations that cool 3D-cartoon look). The only downside to Amorphium's Flash rendering capabilities is the time it took to render images after we applied transformation and paint effects.

Whether you're planning to use Amorphium Pro for traditional 3D modeling and animation or for sprucing up your Web site with some cool 3D Flash effects, it's a rock-solid addition to your multimedia tool chest. And most important of all—especially if you're new to 3D design—you're going to have a lot of fun with this program.—*Patrick Baggatta*

good news: Easy for 3D beginners. Exports to Flash format.
bad news: Some of the best effects render slowly.



Special effects, such as waves, belly, bend, and stretch, let you play with your 3D models as if they were made of clay.



Rendering your animation as a Flash animation file makes it easy to add 3D to your Web site or other multimedia projects.

Top Gun Afterburner Joystick



PHOTOGRAPH BY AARON LAUER

hardware

Company: ThrustMaster

Contact: 877-484-5536, www.thrustmaster.com

Price: \$59.99 (SRP)

Requirements: PowerPC, Mac OS 8.5 or later, InputSprocket 1.5 or higher, USB port, CD-ROM

For desktop fliers, taking to the skies with the same input devices they use to send email just won't do—that's where the Top Gun Afterburner Joystick comes in handy. While the inexpensive Afterburner offers many high-end features found in more costly flightstick controllers, it has a few notable drawbacks.

Like most deluxe controllers, configuring your Afterburner ranges from

Though it delivers a command performance, the Afterburner is better suited to do Windows.

easy as pie to downright painful—for Mac users, it's mostly the latter. The controller only works with InputSprocket-compatible games. A silly flip-up guard hides the Fox 2 button located at the top of the joystick—though it contributes to the realism of playing a flight sim, it caused us to miss crucial shots more than once.

Once you configure the controller and have a feel for the button placement, you can generally count on a smooth flight from the Afterburner's accurate digital control. The controller also offers a surprising level of comfort for your

hands during those long flights and intense battles.

The Top Gun Afterburner is a solid new addition to ThrustMaster's flightstick lineup. However, without a Mac version of the ThrustMapper configuration software, this joystick seems more geared for the Windows crowd.

—Patrick Baggatta

good news: Solid feel. Precise control. Inexpensive.

bad news: The bare minimum of support for the Mac.



USB 2.0

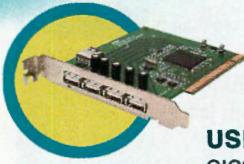
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up to 480 Mbps



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REALbasic 3.0

productivity

Company: REAL Software

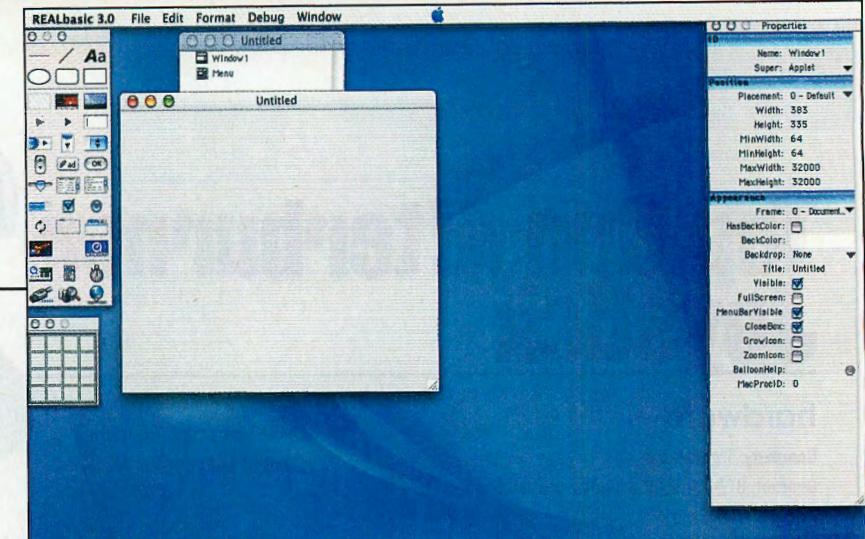
Contact: 512-263-1233, www.realbasic.com

Price: \$349.95 for professional version, \$149.95 for standard version

Requirements: 680X0 or faster, Mac OS 7.6.1 or later, 4.5MB of RAM, 6.5MB of free hard disk space

Over the last few years, REALbasic has evolved from a virtually unknown little utility into the premier rapid application development (RAD) tool for the Mac platform. REALbasic 3.0 continues the tradition, adding several crucial improvements, such as the ability to make shell calls (all those nifty Unix command-line instructions that Mac OS X supports but that long-time Mac users dread). In addition, Mac OS X compatibility should make the program a favorite among shareware developers. The professional version adds a Windows compiler and better database-connectivity tools.

REALbasic is a visual compiler—a program that lets you create other programs by adding code fragments directly to WYSIWYG user interface elements. REALbasic's version of the BASIC language is unlike the language anyone older than 22 probably remembers from childhood—it



It's REALbasic on Mac OS X. 'Nuff said.

supports a full slate of control structures, so the massive overuse of the `goto` statement (a somewhat disreputable control statement that tells a program to jump abruptly from one line to another) that once characterized BASIC programs is a thing of the past.

The biggest change to REALbasic is its support for Mac OS X—it comes with an OS X-native version that, though it has a slightly unfinished feeling, should allow many REALbasic developers to move their applications quickly to Mac OS X. Particularly welcome is the addition of the `Shell` class, which lets Mac OS X users issue Unix commands from REALbasic programs. Apart from adding Mac OS X support, REALbasic has much-improved support for sprites (moving graphic elements often used in 2D game design). Instead of

commandeering the entire screen as they previously did, REALbasic's `SpriteSurfaces` now sit pleasantly in windows and behave a great deal like other controls. There are a host of other tweaks—you can now control the edit and scroll positions of `EditFields`, `ListBoxes` support horizontal scrolling, REALbasic automatically saves temporary copies on each Build and Run (avoiding crashes), and so on.

REALbasic is a wonderful tool, but it has its weaknesses. The absence of anything resembling enumeration types (a method for defining a large number of constants in one command) continues to make writing clean, readable code more difficult than it should be. The program is less than ideal for collaborative projects—it can be very difficult to reconcile changes made by multiple developers, since a REALbasic program consists of a single file. Mac OS X support is still slightly sketchy, as you would expect from a first release. As of print time, REAL Software had just released an update, bringing REALbasic up to 3.1 and adding support for the official release of Mac OS X (version 3.0 targets the Public Beta); we were unable to test 3.1 in time for this article.

Those problems aside, REALbasic is a tool any hobbyist programmer, shareware author, or Macintosh system administrator should have. It will never supplant Metrowerks' CodeWarrior or Apple's Project Builder and Interface Builder for large-scale application development, but that's beside the point—if it's just you, a small task, and a tight deadline, REALbasic is the one to fire up.—*Ian Sammis*

Shell Games

If you're a Unix geek with a small amount of programming know-how, this is a good time to make some pizza money for the next year or two. Think about all those useful little shell commands—cron, awk, renice, and the like. Think about how useful they are. Now think about the zillions of Mac users who have them at their fingertips in Mac OS X—but who would rather drink sewage than use a command line. Think about getting \$10 or so from each of them in shareware fees. Interested?

This script shows you how to issue a Unix shell command.

A shell variable represents a terminal session that REALbasic quietly opens for your program.

You send commands using a shell variable's `execute` method, which sends a single command to a terminal session.

```
Code Editor (Window1)
Sub Action()
dim s as shell
s = new shell
|
s.execute("ps")
|
StaticText1.text = s.result
|
End Sub
```

Here's how to send a shell command in REALbasic 3.0.

By creating a new shell, you set up all the memory REALbasic needs to do its job.

Once you've sent a command, REALbasic stores its results in the shell variable's `result` property. Here we're just sending the results to a text box.

good news: Mac OS X compatibility. Ability to make shell calls.
bad news: Scales poorly to large programs.



Radeon PCI Mac Edition

hardware

Company: ATI Technologies

Contact: 905-882-2600, www.ati.com

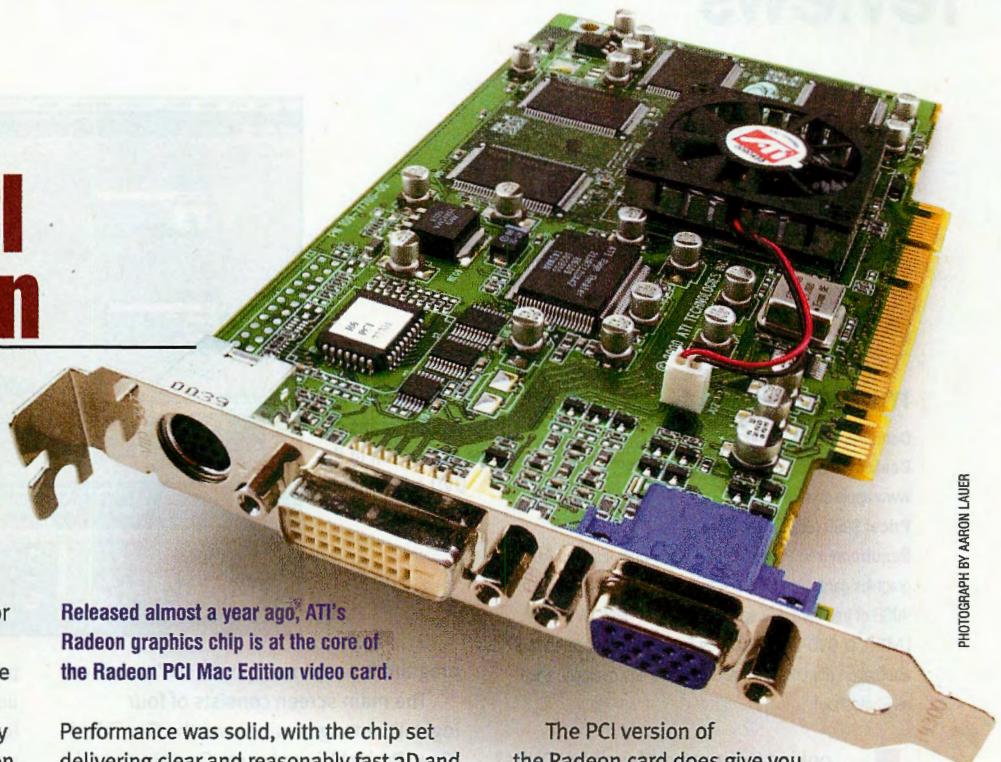
Price: \$169 (SRP)

Requirements: PCI-based Mac, Mac OS 9 or later, QuickTime 3.0 or later, OpenGL 1.1.5 or later

Although it usually takes a while for ATI cards to make it to the Mac, when they finally do arrive, they're solid products that deliver good performance. Unfortunately, they're usually also expensive. The Radeon PCI Mac Edition breaks this rule of thumb with a reasonable price tag, making this card a real bargain.

Installing the Radeon PCI card is as easy as installing any other PCI card—just shut down your Mac, open the case, drop the card in an available PCI slot, close the case, connect the monitor, and start up your machine. Installing the drivers is even easier—just run the installer.

Our Radeon performed flawlessly—no surprise, considering that ATI and Apple have worked closely together for many years.



PHOTOGRAPH BY AARON LAUER

Released almost a year ago, ATI's Radeon graphics chip is at the core of the Radeon PCI Mac Edition video card.

Performance was solid, with the chip set delivering clear and reasonably fast 2D and 3D graphics in a variety of programs.

The Radeon card's output options (standard VGA, DV-I, and S-Video) should cover most folks' basic video needs. The VGA port pumps out standard video for CRT monitors, while the DV-I port connects to digital flat panels. (Note that the Apple Display Connector won't fit into the Radeon's DV-I port). Finally, the S-Video port lets you connect your Mac to many newer televisions or video recorders—great if you want to pump video to a camcorder or play games on TV.

The PCI version of the Radeon card does give you the best video performance you can get in a Mac without an AGP port, but it just can't match AGP. While this isn't ATI's fault, it's something to be aware of. The Radeon chip features the Charisma Engine, which allows powerful character animation. Unfortunately, all that power is wasted—no Mac games take advantage of the Charisma Engine at this time.

However, the PCI nature of the card does bring up one extra benefit—as a controller for a second monitor, it more than meets most users' requirements. As you'd expect, installation is a cinch. Plug it in, close the Mac, attach the second VGA cable, and arrange your monitors in the Monitors control panel. The S-Video and DV-I ports make that option even more attractive for the video-editing enthusiast, and in that regard the performance is excellent, if not exactly blistering.

The Radeon PCI Mac Edition makes a perfect second video card for a modern Mac with an AGP port, or it can work as a replacement video card for an aging PCI-based Mac that lacks an AGP port, and the price is certainly right. The only way to get a more powerful video card is by purchasing an AGP device, and if that's not an option for you, the Radeon PCI is a great purchase.

—David Reynolds

PCI Versus AGP

While the PCI version of the Radeon graphics card delivers respectable performance, it can't hold a candle to the AGP version. We benchmarked both cards in a 733MHz G4 tower. Here's how the two stack up:

NORTON SYSTEM INFO

MEASURES 2D PERFORMANCE (LONGER IS BETTER)



QUAKE III: ARENA FRAME RATES (IN FPS)

MEASURES 3D PERFORMANCE (LONGER IS BETTER)



good news: Solid performance. Plenty of video memory. Easy installation.

bad news: Can't match AGP performance. Still no Mac games available that use the Charisma Engine.



DVD Studio Pro 1.0

multimedia

Company: Apple Computer

Contact: 800-692-7753 or 408-974-2042,

www.apple.com

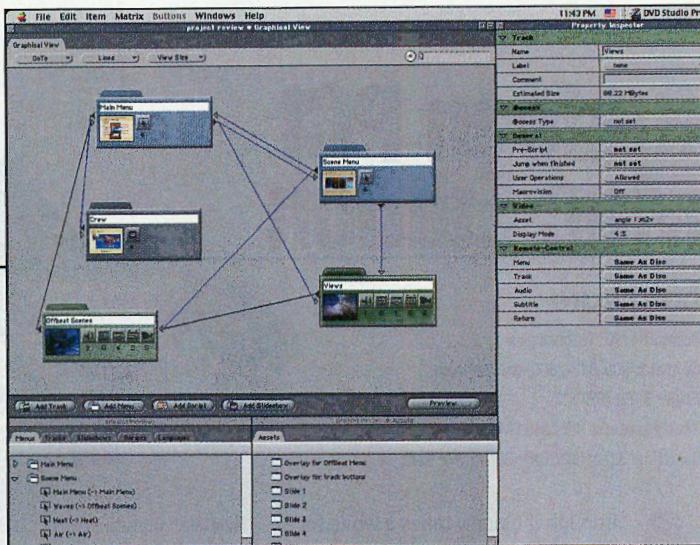
Price: \$999 (SRP)

Requirements: Power Mac G4 with Apple-supplied AGP graphics card; Mac OS 9.0.4 or 9.1; 128MB of RAM; 20 to 40GB of free hard disk space (for project files); DVD-ROM, DVD-R, or DVD-RAM; 1,024 by 768 display; image-editing application (for creating menu graphics and overlays, such as Photoshop)

Looking to create professional DVDs? While iDVD (the DVD authoring package included with SuperDrive-equipped G4s) might be a great program for the novice or hobbyist, DVD Studio Pro is a worthy competitor for any of the professional-level DVD authoring packages available (as of this writing, most are on the PC side) if motion pictures are your bag. In true Apple fashion, DVD Studio Pro is graphically driven, fast, and simple to use, but it has some limitations.

It's important to understand how a commercial DVD "behaves" before you start a DVD authoring project. If you've ever watched a DVD video, you're familiar with features like navigable menus, alternate audio tracks, multiple angles, and subtitles. It's also important to know what DVDs are capable of—how many video streams you can use for each track, for example, or the maximum number of subtitles you can include in a track. So don't skip the "Getting Started" section of the manual—this

DVD Studio Pro visually maps out the interaction of the DVD components.



program is easy to use, but it isn't intuitive.

The main screen consists of four logically arranged windows: the Graphical View, Project View, Assets Container, and context-sensitive Property Inspector. You can get an overview of your project by looking at the Graphical View, which houses the different video, audio, and scripting components in a DVD, displaying them as tiles you can arrange with interlinking arrows.

The Assets Container holds all the video, audio, and graphic elements that make up the DVD's footage and menus. However, you must prep all of your media prior to importing them into DVD Studio Pro. This means you'll have to edit video in a package like Final Cut Pro and compress it with the appropriate encoders (included with DVD Studio Pro). It also means that you'll have to invest some money in a video-editing package if you don't already have one.

To create graphical menus and menu items (buttons), DVD Studio Pro requires that you use either the PICT format or PSD (Photoshop). Photoshop is preferable because DVD Studio Pro makes excellent use of Photoshop layers. For example, in Photoshop you can start with a background image with the buttons in their inactive state (not highlighted). Then you can create a layer for each button in its selected state (highlighted), and another layer for each button in its activated state (when a user presses the button). DVD Studio Pro displays these layers as individual elements and makes menu creation both visually pleasing and easy to manage.

There is little you can't do in DVD Studio Pro when it comes to authoring fully

professional DVDs. However, hardware limitations mean you can't master a full-length motion picture in full-quality mode using the SuperDrive in Apple computers. (This is because the DVD-R format in the SuperDrive is currently limited to a 4.7GB capacity; see *Scrapbook*, this issue, p22.) For larger-capacity DVDs (DVD-9s), you have to save your completed files to DLT (Digital Linear Tape) and rely on DVD pressing services to master a commercial-level DVD.

For a first release, DVD Studio Pro is a mature program—and it's handy (fun, even!) for folks in the multimedia industry who want to add another level of service to their business.—Andrew Tokuda

good news: Pro-level DVD authoring for the Mac. Easy to use. Great tutorial. Built-in previewing capability.

bad news: Stringent hardware requirements. Separate applications needed for DVD authoring.



freakin' awesome!



How do you create a simple button? Just drag, name, and assign.

The Basic, Yet Killer Setup

So what does it take to run a DVD authoring suite, anyway? Let's add up the dollars and see if you're ready to take the plunge!

DVD Studio Pro 1.0	\$999
733MHz Power Mac G4 with SuperDrive	\$3,499
Final Cut Pro 2	\$999
Photoshop 6.0	\$609
Skill and talent	Priceless!

Total \$6,106

PhotoImpression 3.0

design & graphics

Company: ArcSoft

Contact: 510-440-9901, www.arcsoft.com

Price: \$49.99 (SRP)

Requirements: Power Mac, Mac OS 8.5 or later, 32MB of RAM, 120MB of free hard disk space, CD-ROM

Software is designed to make your job easier, but sometimes it just doesn't. Many programs either have a difficult learning curve or contain so many bells and whistles that the one thing you set out to do (say, fix a photo) becomes a frustrating experience. Luckily, not all programs are such brain puzzlers. ArcSoft's PhotoImpression 3.0, a photo-editing program designed for amateurs, is genuinely easy to learn and use.



Add artistic borders or cutouts to your photos with a click of the mouse.

PhotoImpression 3.0 is for folks who don't know a lot about image editing but want to make their photos look great. It features simple tools for editing and retouching, adding special effects, drawing, adding text, creating cards and calendars, and more. After a painless installation, we launched the program.

PhotoImpression blankets your desktop with a slick-looking, full-screen graphical interface that hints at Mac OS X design elements. You can find the command categories via push buttons on the left side



PhotoImpression comes kitted up with simplified retouching and drawing tools—no previous image-editing experience required.

Fixing exposure and contrast problems is a snap in the Enhance section (one of six graphical areas of the interface), but color corrections get pretty tricky.

of the screen. The tools and options for each command are at the bottom, and the toolbar appears on the right. However, we have a gripe about the placement of the window status buttons at the top of the screen. Pressing the upper-right button exits the program—we Mac folk are accustomed to having the minimize button in that spot, so this caused us to quit accidentally on several occasions.

The Retouch and Enhance features include selection tools, crop, paintbrush, pen, clone, red eye, tone control, sharpen, hue/saturation, brightness/contrast, and even autoenhance (this tool adjusts a photo's levels and contrast—it performed well, but only on photos that didn't have severe color casts or major exposure problems). ArcSoft gets bonus points for layer support, which lets you make spot adjustments to different parts of an image. For the average job, most of these tools work well, but you'll have to wait for the program to catch up with your actions.

In our testing, we noticed that PhotoImpression reacted slowly to certain image-orientation changes. It took 5 seconds to flip an image horizontally and another 15 seconds to turn an image 90 degrees. When we rotated an image using the freehand rotate tool, we didn't think our change had registered—the image remained unchanged for 10 seconds.

Making selections was difficult with the polygon tool—when we drew around an object to select it, we had difficulty seeing the highlighting line that showed where we were tracing. Also, the lack of either a color-correcting or a white-balancing tool is an



issue, since color casts are a common problem with digital and scanned photos, and the hue tool alone can't do the job.

Once you've fixed your photo, you can drop it into one of several premade borders and cutouts instead of trapping it inside a plain old square. You can also drop a photo into a greeting-card template (Hallmark they ain't) or have a good laugh superimposing a friend's face onto one of the bodies in the PhotoFantasy feature.

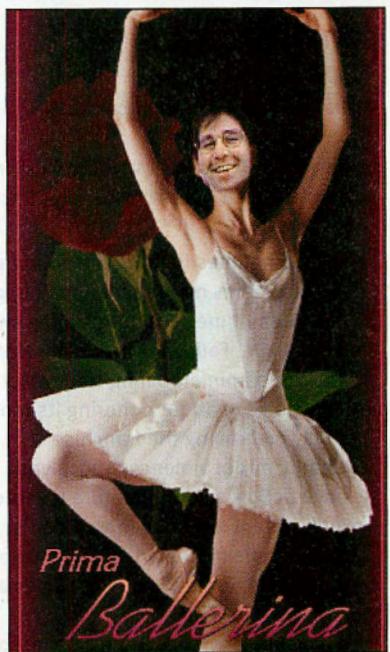
Overall, PhotoImpression 3.0 does a good job of fixing photos that don't suffer from color problems, and it's easy enough for even computer novices to use. However, the program's sluggishness and paltry color-correcting controls get pretty wearisome. It almost rates a *Spiffy!*—but it just misses.

—Kris Fong

good news: Easy to use. Layer support. **bad news:** Slow. No precise color-correction tools.



yeah, whatever



PhotoFantasy? Our result is more like a photo nightmare!

Nisus Writer 6.01

productivity

Company: Nisus Software

Contact: 858-481-1477, www.nisus.com

Price: \$99.95 (SRP)

Requirements: 680X0 Mac or faster, System 7 or later (Mac OS 8 or later recommended), 2MB of RAM (4MB of RAM on a 680X0 Mac), 33.6MB of free hard disk space



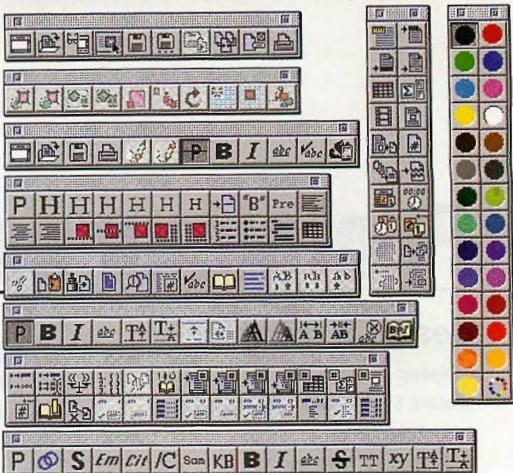
Find a demo
of Nisus
Writer 6.0.1
on The Disc.

If you're tired of shouldering a load of software bloat every time you want to type text, have a gander at the nimble text-editing machine Nisus Writer 6.01.

It's been well over two years since the last major release, but version 6.01 isn't exactly a complete overhaul, offering only small fixes and tweaks and just a few new tools. Most notable among the changes are a grammar checker, a feature that automatically expands defined abbreviations, and a handy text analyzer. But the lack of overall glitz in this latest

Nisus be nimble, Nisus be quick:

A plethora of palettes lets you arrange your tools the way you want.



iteration doesn't detract from Nisus Writer's core strengths as an extremely stable, potent, and flexible text editor.

We like the Mac-centric features, such as the autocorrect library containing the correct capitalization for *Macworld* and a spelling dictionary that includes words like *ResEdit*—though our own beloved magazine was tragically absent from the list of publication names.

Unfortunately, its dedicated focus on text editing means that beyond some watermarking and text-wrapping tools and a simple graphics editor, you're saddled with an archaic table creation tool that

skips layout niceties, such as multiple columns. Also, although Nisus Writer supports RTF, you might find the lack of a Microsoft Word import filter problematic if you engage in heavy document swapping.

Nisus Writer is worth a look when you consider its power and price, and the fact that it takes up half the RAM Microsoft Word consumes.—Jaap O. Tuinman

good news: Low overhead. Powerful text tool. Foreign language support.
bad news: Not a huge update. No Microsoft Word import filter. Extremely limited document layout tools.



spiffy

Heavy Metal: FAKK 2

fun & games

Company: Gathering of Developers

Contact: 877-463-4263, www.godgames.com

Price: \$39.99 (SRP)

Requirements: G3 processor or faster, Mac OS 8.6 or later, 64MB of RAM (128MB recommended), 20MB of free hard disk space (400MB for a full install), CD-ROM

Whether it's a two-handed axe or a flamethrower, Julie's weaponry lets her adequately express her views about the boob tube.



Sometimes fighting the good fight requires more than just a big gun; sometimes it requires a big sword and a big gun. Following up on the *Heavy Metal: 2000* animated film, *Heavy Metal: FAKK 2* isn't shy about honoring its roots—gleefully embracing the franchise's legendary mix of violence, apocalyptic science fiction, and (im)mature levels of sexual content and innuendo. Eden's defender, Julie (modeled after B-movie virtuoso Julie Strain), is big on curves and minimal on clothing.

The game's awe-inspiring arsenal spans everything from Uzis and rocket launchers to a giant axe and a fire sword. Better yet,

you can carry different items in each hand, getting up close and personal with a blade while simultaneously blasting away at a distant target or protecting yourself with a shield. The intuitive combat system is easy to learn thanks to a comprehensive tutorial, and the camera rarely hampers the third-person point of view.

Populated by outlandish aliens and friendly town folk, the environments are stunning and varied. Plenty of lighting effects and some downright disturbing organic shapes push the underlying Quake III engine to beautiful extremes. The puzzles, which don't present much of a brain drain, make sense within the game's context.

An unfortunate audio bug occasionally interrupts the party with a burst of static, but this does little to damage the overall effect of Gathering of Developers' effort. The mix of gun action and melee mayhem, spectacular visuals, and great gameplay combine to deliver an imaginative action adventure that's bold, loud, and simply maximum rock 'n' roll.—Jaap O. Tuinman

good news: Absolutely gorgeous design. Wicked mix of melee and projectile weaponry.
bad news: No multiplayer mode. Occasional sound glitches.



freakin'
awesome!

Que M2 10GB FireWire Drive

hardware

Company: QPS

Contact: 800-559-4777 or 714-692-5573, www.qps-inc.com

Price: \$289 (street)

Requirements: Power Mac with built-in FireWire, Mac OS 9 or later, 64MB of RAM, 100MB of free hard disk space, CD-ROM

At its core, the M2 is a portable IDE hard drive with a FireWire bridge chip stuck on the back—nothing too extraordinary. The case design, however, turns this pedestrian interior into something fantastic. The Que M2 shows that the folks at QPS are making a real effort to turn an ordinary peripheral into a great product.

The case features a Starfleet insignia-shaped docking nubbin on the top and three FireWire ports—one on the back, one on top,

and one on the bottom. This design lets you easily stack multiple M2s—the FireWire ports and docking nubbin will keep the stack together and the weight properly distributed.

The M2 also comes with an amazing accessory kit, which includes a couple of FireWire cables, a power supply, a pouch for the driver-software CD, and a couple of snap-on connectors (a belt clip and a suction cup). These items let you attach your M2 to your pants or stick it onto a smooth surface, such as the side of a G4 tower.

The drive itself performed very well. After we installed the included CharisMac utility software, the drive showed up on our desktop and responded beautifully to file transfers of all kinds on various Macs.



PHOTOGRAPH BY AARON LAUER

The Que M2 10GB FireWire hard drive sports the most interesting design we've seen in months and includes three well-placed FireWire ports.

This is the ideal drive to accompany any PowerBook with a FireWire port. With its nifty carrying case, included power supply, various mounting widgets, and solid performance, the Que M2 is ready to hit the road.—David Reynolds

good news: Bus powered.

Innovative design. Great accessory kit. Good price. **bad news:** There's a lawsuit just waiting to happen over the front-of-case design.



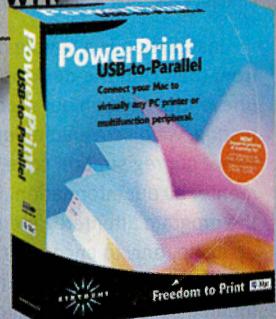
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STRYDENT

Expression 2

design & graphics

Company: Creature House

Contact: www.creaturehouse.com

Price: \$149 (SRP)

Requirements: Power Mac, Mac OS 8.0 or later, 64MB of RAM, 64MB of free hard disk space, ColorSync 2.5 or later, CD-ROM, graphics tablet recommended

Once in a blue moon, some ambitious software developer cranks out a unique product that takes the standard to a new level. Such is the case with Creature House's Expression—a vector-based illustration program that introduces skeletal strokes (brush strokes created from a bitmapped image or vector graphic) to the digital art community. Recently released, Expression 2 features many of the same tools found in its predecessor, but includes a retooled rendering engine, a redesigned interface, and other new features and enhancements.



Turn images into paint, add them with a simple brush stroke, and edit them to your heart's content (yes, that is a cat's paw).

Installation is a simple drag-the-folder-from-the-CD-to-the-desktop affair—pretty uneventful—but on our second day of testing, we discovered a bug. The program forgot our registration code, and we had to reenter all our information. Curious, we quit the program after reregistering and fired it up again, only to encounter the same nagging registration problem! Later, we found that we could just click OK or even

Using a pair of digital clippers, you can cut out petals from a circular brush stroke by clicking the mouse.

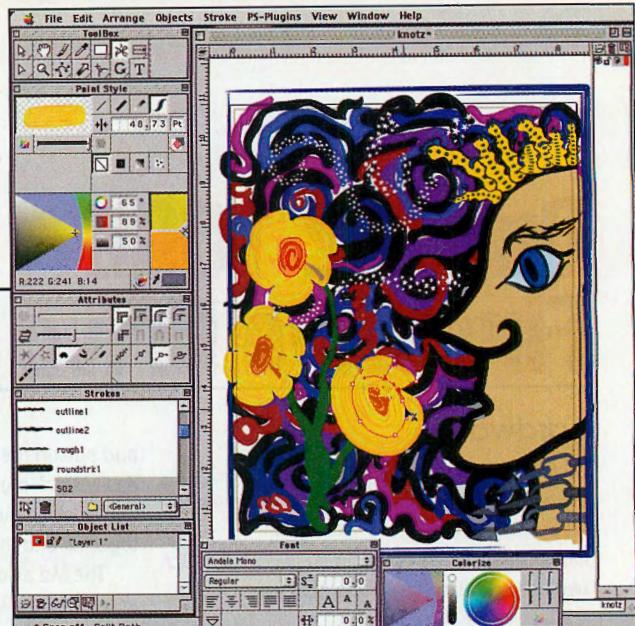
Cancel without entering anything, and the program still launched.

Expression is not your typical vector graphics app; the interface, though stylish, is unconventional, and some of the palettes are not intuitive. Unfortunately, the confusing manual glosses over how to use many of the tools, such as the Color Dropper and Attributes palette, leaving us to experiment on our own. After spending some time tinkering with the interface quirks, such as its unique color picker, we were ready to draw.

Expression contains many standard drawing and painting accoutrements, including freehand and Bézier pen, text, and b-spline tools, as well as features like editable strokes, onion skinning, embossing, transparent gradients, light effects, paper textures, layers, blending modes, warping, Flash export, and more. With some practice, you can paint a canvas decorated in realistic-looking media without getting your hands messy.

The beauty of Expression lies in its skeletal strokes feature. The program includes a number of predefined strokes—the watercolors and acrylics are impressively realistic (though many of the graphics strokes are just plain weird). It also allows you to create your own—in other words, you can scan your cat's paw, convert it into a bitmapped image, save it as a skeletal stroke, brush the paw onto your canvas like paint, and then edit it like a vector graphic. You can also put charcoal, pastel, or oil paint on a real canvas, scan it, and turn it into bitmapped strokes.

We used the Bézier pen and freehand paintbrush tools to draw outlines, and we used skeletal strokes to give objects a more authentic painted style. We liked the Attributes palette, which let us adjust individual strokes. We found the undo function slightly annoying—not only did

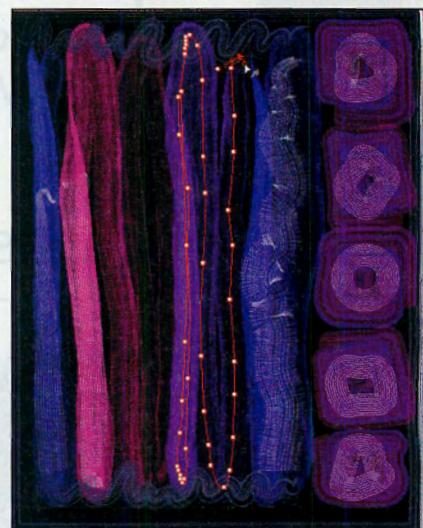


our boo-boo go bye-bye, but the program also reverted our paint color and stroke back to the settings of the previous stroke instead of maintaining the current ones.

When you finish working on your masterpiece, you can save it in Expression's proprietary format, but that won't get you very far in today's Adobe-standard world. Fortunately, you can export your work to Illustrator, Photoshop, and Flash formats.

Not only does Expression produce great results, but it's also a lot of fun to use. It offers limitless options and instantaneous feedback, and because you're working with layered vector graphics, you can easily fix your mistakes.—Kris Fong

good news: Editable paint strokes. Fast rendering. Fun. **bad news:** Initially confusing interface. Registration bug.



You can reposition watercolor paint strokes any way you like, thanks to skeletal strokes.

That's Infotainment!

Driver-ZED

Company: AAA Foundation for Traffic Safety

Contact: 877-992-6600, www.driver-zed.com

Price: \$29.99 (SRP)

Requirements: 180MHz PowerPC or faster, Mac OS 8.6 or later, 32MB of RAM, 90MB of free hard disk space, 16-bit color display, 4X CD-ROM, QuickTime 3.0.2 or later

Driver-ZED is a witty instructional CD-ROM for teenagers who are learning to drive; however, it lacks information on state-specific laws and sensitive issues (like drunk driving), meaning it will help kids become better drivers but it won't help them pass a written DMV test.

Though installation was a breeze, Driver-ZED only runs with thousands of colors and



We like the cars, the cars that go *boom*.

less. The game is hosted by four teenagers who present more than 80 movie-based "behind the wheel" driving situations on the highway, around town, and in the country.

Four game modes ask you to react to a variety of driving scenarios from tailgating cars to errant pedestrians. The teens then comment on your responses—showing you the sometimes disastrous consequences of a bad driving decision.

Our favorite mode, Drive, presents a precarious driving situation, offers four actions, and asks you to choose the one that would avert disaster. Some situations are tricky, and we crashed our car a few times.

Driver-ZED does teach you to pay close attention to the road, but it's not a DMV-preparatory device.

—Narasu Rebbapragada

good news: Solid instruction.

Relatively fun.

bad news: Short. Avoids controversial and state-specific topics.



Topo Interactive Maps

Company: National Geographic Maps

Contact: 415-558-8700, www.topo.com

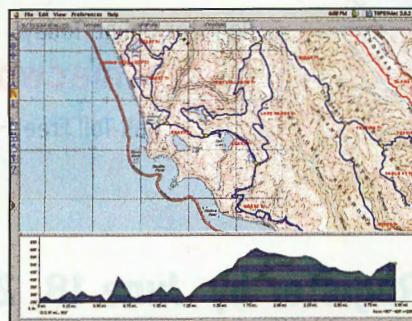
Price: \$49 (regional), \$199 (all states)

Requirements: PowerPC, Mac OS 8.5 or later, 48MB of RAM, 10MB of free hard disk space, 2X CD-ROM, color monitor, QuickTime 2.5 or later

We'll just wing it." Famous last words. Hours later you're still lost because you were too lazy to get a map. Topo Interactive Maps puts detailed maps of various U.S. regions on CD-ROM. Though navigation is sometimes awkward, outdoor enthusiasts will find the sheer wealth of information well worth the effort.

With 30 regions available, we tested the San Francisco Bay Area, Wine Country, and Big Sur package. Installation was weird—you buy the Windows version, then drag its disc image onto a downloadable Mac-enabling application to launch the product.

What you get is remarkable: about 200 detailed USGS topographical maps up to a 1:12,000 scale. Three navigation windows allow you to draw routes and create reports describing elevation and distance. The most exciting feature is the downloadable trail maps. We quickly found and measured a trail to secluded Bass Lake, bookmarked it for later reference, customized it with text and symbols, and printed it. Topo brings amazing possibilities for outdoor fun to your Mac.—Narasu Rebbapragada



Find it. Map it. Print it. Then go outside, ya geeks.

good news: Comprehensive.

bad news: Bare-bones interface hides some great features.

Blues Guitar Legends

Company: eMedia

Contact: 206-329-5657, www.emediamusic.com

Price: \$29.95 (SRP)

Requirements: PowerPC, System 7.5.3 or later, 16MB of RAM, 20MB of free hard disk space

The fun you'll have with eMedia's Blues Guitar Legends might chase the blues away as it teaches you to play some of its greatest hits. We quickly installed the CD-ROM to reveal a simple yet easily navigable interface, which presents ten songs from venerable blues artists. The instruction methodology was what really grabbed our attention. Each song is broken down into guitar type (lead guitars 1 and 2, and rhythm guitar). Depending on what part you want to learn, you follow along with the



We looped this section of Howlin' Wolf's *Back Door Man* until we learned it.

tablature and the useful animated fretboard, which shows bends, vibrato, and slides. The individual MIDI tracks show how each guitar fits in.

Teaching tools include a tuner, a metronome, and a recording option. Dragging your mouse over a certain section of the score plays it repeatedly, helping you work on trouble spots.

The complexity of Blues Guitar Legends may frustrate beginners. Still, all the instructional elements are sound, and for those willing to try, this CD will provide a lot of enjoyment.

—Narasu Rebbapragada

good news: Fun. Comprehensive.

bad news: Complex interface might frustrate beginners.



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powerplay

Wonder if they make sneakers for hands...

X Games

What Do the Macintosh Game Developers Think of Mac OS X?



Find
TakeAway
1.7.3
shareware on
The Disc.

Now that X is a reality, we thought we'd get some initial reactions to the new system from the folks responsible for the Macintosh gaming scene. We gathered these comments in the final days before Mac OS X shipped to the public, so set your mental way-back machine for mid-March and take a look at what they had to say.—IS

The Man: Graeme Devine

The Company: id Software

What He Does: Game design and development

Initial Reactions to Mac OS X: I've been privileged to see the late builds. I've seen it go a long way in a short time. I've tried using it and enjoy developing on it. It's a very usable OS.

The Best Thing About Mac OS X: When you debug your application, you don't have to reboot your machine, so it takes much, much less time.

The Worst Thing About Mac OS X: Developing native OS X [apps] is still a little tricky, thanks to issues with the HID [mouse, keyboard, and joystick] support, and a couple of documentation issues have yet to be resolved.

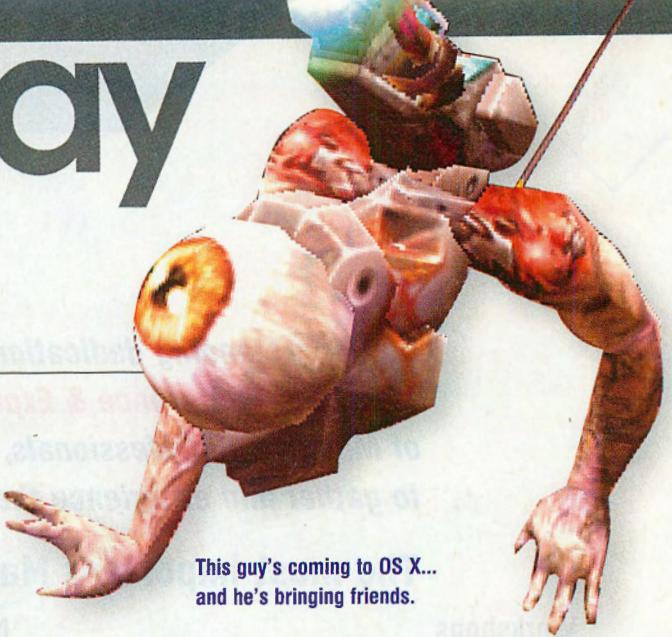
The Man: Mark Adams

The Company: Westlake Interactive

What He Does: Company president; game development

Initial Reactions to Mac OS X: It seems to be shaping up pretty nicely—we've been watching it stabilize and look a bit more Mac-like. It seems to be coming into its own. We won't be able to tell how it works for games until the end of March.

The Best Thing About Mac OS X: Stability is the best thing for us—as we're a developer, our Macs crash more than anyone else's, so the



This guy's coming to OS X...
and he's bringing friends.

development process will speed up considerably when the Macs don't have to reboot every time a program runs amok.

The Worst Thing About Mac OS X: Worst thing for us is going to be the transition from 9 to X; when some users have 9 and others X, we'll have to test games on both configurations. That'll work itself out with time (hopefully!), but until enough people are on X so that we can release OS X-only games, we'll have a lot more work to do.

The Man: Brian Fitzgerald

The Company: Blizzard Entertainment

What He Does: Head of Macintosh development

Initial Reactions to Mac OS X: I love it—I'm really looking forward to it, and to shipping games as OS X only (that's years away because of the installed base).

The Best Thing About Mac OS X: Hard to say, really. The architecture's going to let us create much higher-performance games in the future. The memory system is a *lot* better in OS X than in OS 9—that's always killed us with Mac games in the past—because virtual memory works so much better, we can ship higher-performance games with lower system requirements.

The Worst Thing About Mac OS X: Right now, it's very hard to work in because the tools are so new—it takes much longer to get an OS X game together than an OS 9 game. Most of the problems are just teething problems that'll fade as OS X matures.

The Man: Nate Birkholz

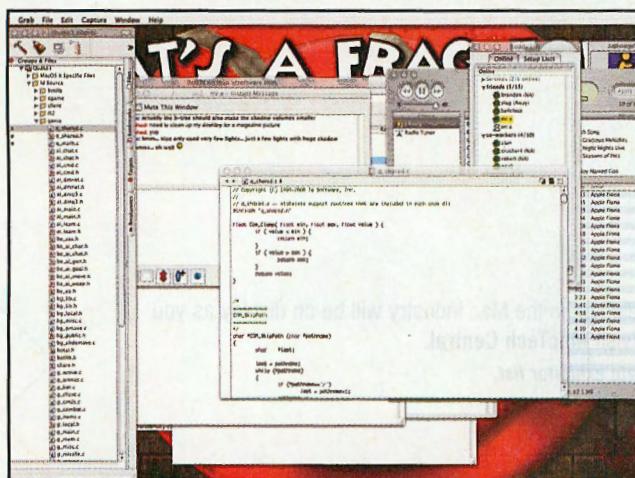
The Company: MacSoft

What He Does: Product coordinator

Initial Reactions to Mac OS X: In all honesty, I haven't really used it much, and not all the features have been implemented. We've been concentrating on maintaining what we've got out there while we wait for the final version. It looks really powerful and fast, but my main concern is what it's going to be like inside Classic. Just like the transition to the Power Mac, eventually everything [will be] fine.

The Best Thing About Mac OS X: It's really fast. OpenGL-native [graphics] will be much better than everything we've dealt with so far.

The Worst Thing About Mac OS X: I'm worried about how well the Classic environment's going to work. It wouldn't be economically feasible to go back and convert all our older titles—so we'd like to make sure it'll be good. We're worried about the shakedown period. We'll probably Carbonize some catalog titles depending upon how well they sell, but we have a lot of titles in the channel.



This is a piece of the source code for Quake III: Arena in Mac OS X's Project Builder.

The Monkeys, the Monkeys!

Escape from Monkey Island Keeps the Series Alive

Aspyr Media's *Escape from Monkey Island* (\$44.95, www.aspyr.com) marks the return of the series to the Macintosh platform. *Curse of Monkey Island* didn't come out on the Mac, so we've been isolated from the evolution of the series. It's a surprise to see Guybrush Threepwood, Elaine Marley-Threepwood, and the rest of the cast suddenly rendered in the second-best OpenGL graphics we've ever seen. (OK, they're not that great, but after playing the game we couldn't resist.) For that matter, it's a surprise to see that Elaine has finally succumbed to Guybrush's charms and married everyone's favorite dimwitted swashbuckler.

One you get past *Escape*'s amazingly long opening cut scene (or at least once you figure out you can escape it by pressing the Escape key), you'll quickly get sucked into a typically quirky *Monkey Island* plot. Your wife Elaine has been falsely declared dead during your three-month honeymoon cruise, your mansion is slated for destruction by a catapult-wielding demolitionist, and a slimy politician wants Elaine's job as governor of Melee Island. Threepwood has to overcome the usual mix of strange and offbeat puzzles, bizarre characters, and his own ineptitude to keep Elaine safely in house, home, and career.

Escape is a graphically based adventure game in the style of Sierra's *Space Quest* series. Gameplay is fairly linear—this can feel stifling but keeps you out of situations where you end up wasting multiple hours because you missed an item near the beginning of the game (all who played the classic Infocom game, *The Hitchhiker's Guide to the Galaxy*, remember this problem—along with the exact instant when they realized they should have fed the dog a sandwich to win the game). The game allows a fair amount of dithering as well, which we also appreciate (there's nothing worse than wondering if you've already lost simply by taking too long to accomplish some task). If you've been in mourning since the last *Space Quest* left the platform, try this game out.—IS

He's back! That spindly legged, OpenGL-rendered guy on the right is Otis from the first *Monkey Island* game.



Finally—a fun way to use emoticons. *TakeAway*, an adaptation of the classic tile-matching game, will keep you playing for longer than you might expect—or even want.



Got a Match?

Your Breath and a Buffalo... Wait, Wrong Match—Read About This Game Instead

Like a demented cat with wanderlust, classic game genres just keep coming back. *Take Shanghai*, for example—the mah-jongg tile-matching game has appeared on the Mac in several incarnations. In the latest version, *HowleWere's TakeAway* (\$18, www.howlewere.com), you match like tiles in an attempt to remove them all from the board. The game features various tile layouts and several symbol sets to suit your moods—from emoticons to symbols to funky numbers. You can also change scenic backgrounds for that international flair. Besides mah-jongg mode, *TakeAway* features a simple matching mode in which you try to match two of the same tiles—the trick is that you can only turn over two at a time. If they don't match, they turn back over, and you have to remember where you saw a particular tile.—DR

Screenshot of the Month

Send your best screenshots to letters@macaddict.com with the subject line "Screenshot of the Month" if you crave fame and glory (or at least fleeting satisfaction upon seeing your screenshot in a magazine).



Artist's Statement

While playing Driver, I was driving along in San Francisco going uphill at top speed as a police car was coming down. We collided head-on and I flew over the streetlight. Of course, I wrecked myself thoroughly when I landed.—Dylan Stewart

how to

Teach text tricks and avoid alliteration. Darn.

Get More Mileage from Times

by Ian Sammis



TRICKY

WHAT YOU'LL NEED

- Photoshop 6.0 (\$609, www.adobe.com)
- A slight aversion to buying fonts



This stuff's for the pros.

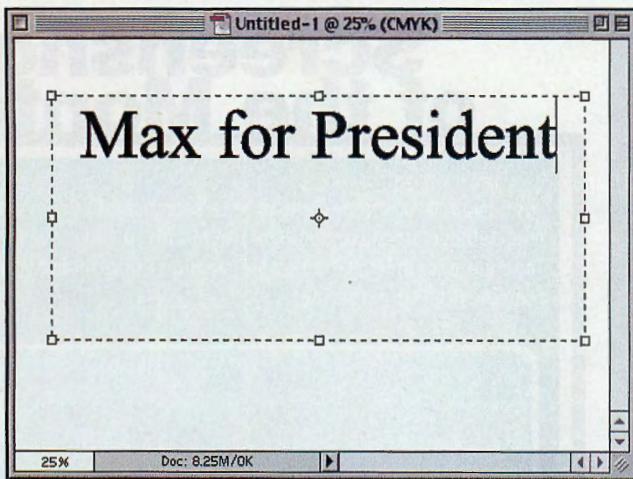


It'll take some effort, but you can do it.



The fundamentals, if you will.

Although getting a cool new font is one of life's better pleasures, it's hardly the only way to assuage your deep-set need to add a touch of your own personality to your every word. With a little know-how, you can wrangle a surprising amount of character out of even the lowly Times font. While this sort of wrangling used to be the exclusive privilege of page-layout fiends and vector-graphics mavens, some new features Adobe strapped to Photoshop 6.0 should let the rest of the image-manipulation crowd in on the fun. Follow along as we stretch, squash, fold, spindle, and mutilate Times using Photoshop 6.0.



We decided to help our mascot with his political aspirations. Unfortunately, Times was designed for tight spaces, not giant banners like this. We'll have to do some tweaking.

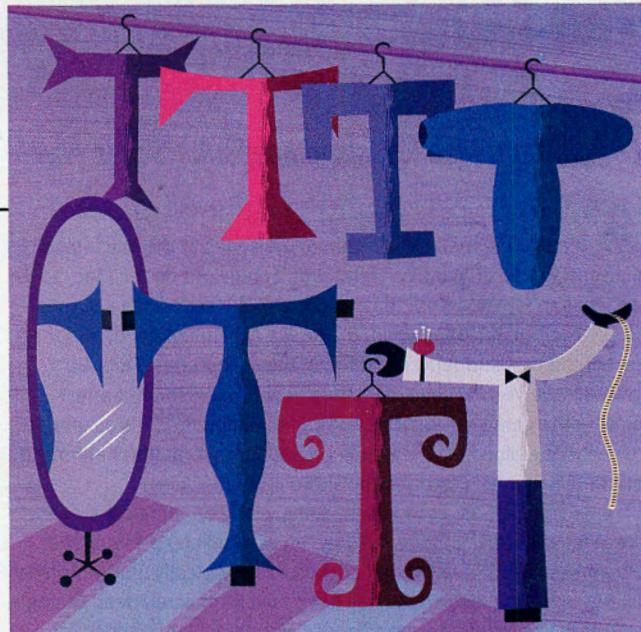


ILLUSTRATION BY SHAG

A tweak here and a squash there can practically give you a whole new font!

DISPLAY TIMES

Times was originally designed for body text, but with a little manipulation you can use it for other purposes. If you look back at early display fonts (typefaces meant for use at large font sizes), they often had unique characteristics: abnormally tall capital letters relative to the rest of the characters, lowercase letters represented as small capitals floating above the baseline of the uppercase letters (the baseline is the imaginary line upon which the letters sit), and slightly compressed spacing compared to modern fonts like Times. Fortunately, these features are easy to emulate in any program with good font-control features, from Photoshop 6.0 to Microsoft Word.

1 Enter Your Text

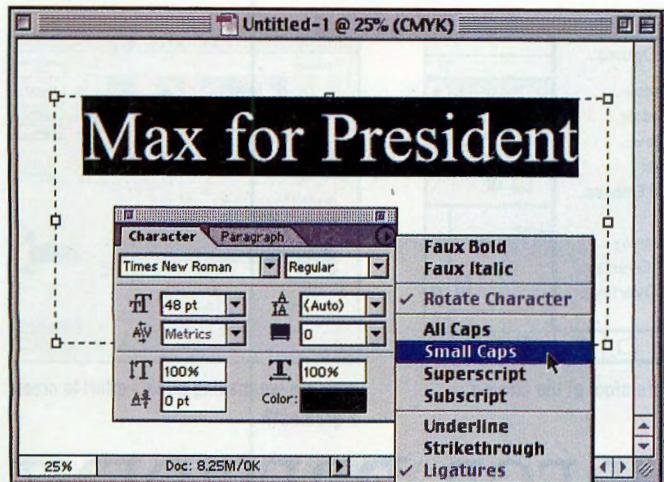
In Photoshop, create a new document 6 inches wide and 4 inches tall at 300 dpi. Using the text tool (an uppercase letter A in the toolbar), drag out a rectangle into which your text will fit. In the toolbar, set font to Times New Roman and size to 48 Point, and type the phrase to which you want to give a nineteenth-century appearance in the window.

Historical Times

Times is probably one of the most ubiquitous fonts in existence—rarely a day goes by when you don't see something printed in this typeface. It might surprise you to learn that Times is a youngster as fonts go—it'll turn 69 this October.

According to *The Electronic Publisher* (now, sadly, out of print), Stanley Morrison designed Times (its full name is Times New

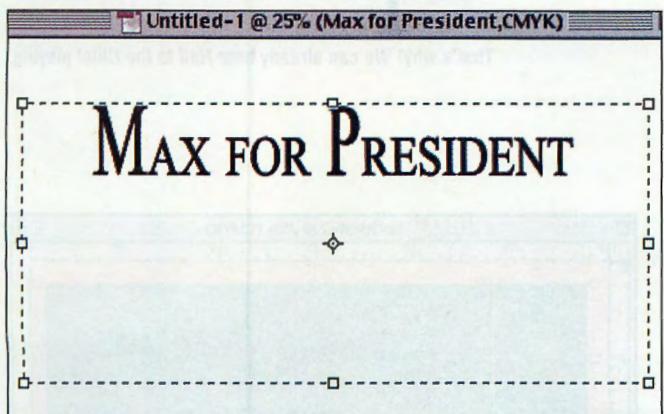
Roman) in 1931 for the *Times of London*. Times appeared in print for the first time in the *Times*' October 3, 1932 issue. The font quickly gained popularity—its tight character spacing saved paper, which became increasingly expensive due to World War II. These days, it's rare to see a newspaper that doesn't use a variant of Times for body text.



2 Switch to Small Caps

Select the text by dragging over it or by typing Command-A (Select All). Click the Palettes button in the toolbar at the top of the screen to bring up the Character and Paragraph palettes. You'll be using these palettes a lot—they're your main font-wrangling tools.

Click the triangle in the upper-right corner of the window to bring up the Font Style menu. Choose Small Caps to make Photoshop display lowercase letters as smaller versions of uppercase letters.



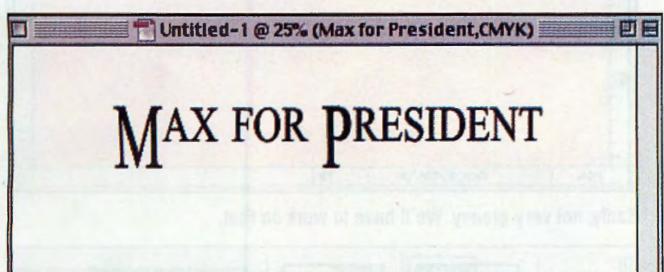
Once you choose Small Caps, you can say goodbye to lowercase letters—they'll just become small versions of uppercase.

3 Condense and Stretch

Now you'll want to mimic the slightly contorted look of older fonts. First you should condense your text slightly. To do so, change the horizontal scale (represented by a T with a horizontal arrow beneath it in the Character palette) to 80 percent. The font should narrow slightly.

You should also make the true capital letters (the letters that would be uppercase even if you hadn't selected Small Caps) a bit taller than they would be otherwise. Select each true capital letter in turn, and change the vertical scale (represented by a T with a vertical arrow to its left in the Character palette) of these characters to 130 percent.

With narrower character spacing and extratall capitals, Max is already feeling a bit more presidential.



4 Raise the Baseline

To float the lowercase letters, you'll have to shift their baseline upward (draw them above the imaginary line your text normally sits upon). The Character palette represents baseline shifts with a lowercase a drawn higher than normal alongside an uppercase A. Select each block of your lowercase letters in turn and raise their baseline by 18 points.

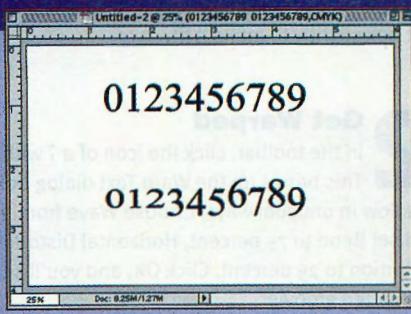
That's better, but still a bit plain-vanilla.

Lowercase Numbers

If you really want to give a document that old-time feel, consider using lowercase numbers. Although it's nearly been forgotten (except by professional designers), numbers have cases just like letters. The numbers you're used to seeing—each digit equally tall, reaching as high as capital letters—are the capital numbers. Lowercase numbers look a bit different.

To make a lowercase Times 0, 1, or 2, set the vertical scale of these digits to 66

percent. This shrinks them to stand at the x-height (the height of a lowercase x) of Times. But 3, 4, 5, 7, and 9 are trickier—in lowercase, they should have descenders that reach as low as the tails of y, g, p, and q. To mimic this, set the scale for these digits to 96 percent, then give them a baseline shift downward by 20 percent of the font size you've chosen (-9.6 points for 48-point text, for example). You can leave 6 and 8 alone—they look the same in uppercase as they do in lowercase.

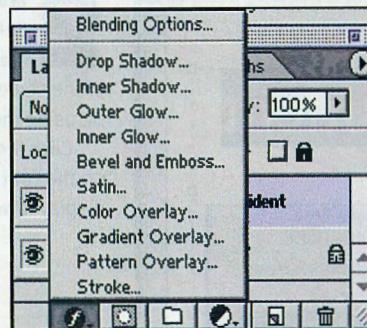


By fiddling with digits, you can fake lowercase numbers in a font that doesn't have any.

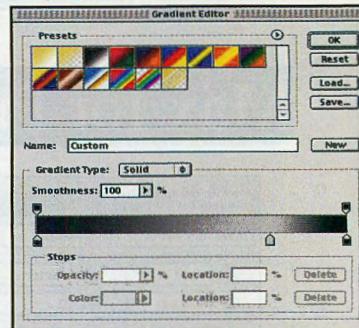
5 Polish It Up

Now it's time to add a slight shine to the font to finish it off. In the Layers palette (if you can't see it, choose Show Layers from the Window menu), select the text layer that contains your new font. Click the circled **f** at the bottom of the palette to bring up the Layer Effects menu, then choose Gradient Overlay.

In the dialog box that appears, click the picture of the gradient (labeled Gradient) to bring up the Gradient Editor. Drag the white box that appears below the gradient to the left until its position (shown in the Stops area at the bottom of the window) is 75 percent. Double-click the white box and set its color to a light gray. Next, click below the gradient at its extreme right edge to create a new box. Double-click the box and set its color to black. The Gradient Editor should now appear as it does in the screenshot, far right. Click OK to dismiss the Gradient Editor, make sure the Style for the Gradient Overlay is Linear and the Angle is set to 90 degrees, and click OK once more. Your text should now look a bit more polished.



Strange things are afoot at the circle-f.



Why are we making all this effort to create a gradient?

MAX FOR PRESIDENT

That's why! We can already hear *Hail to the Chief* playing.

GROOVY TIMES

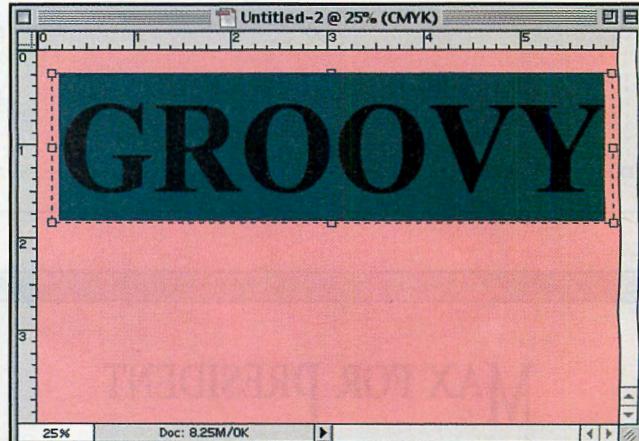
Now let's jump forward in time to the sixties and seventies. In those days, if the characters of a font followed nice, straight lines they just weren't working hard enough. Photoshop 6.0 was designed with stuff like this in mind—let's make a really groovy banner.

1 Make a Mask

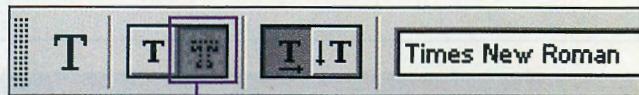
When you're striving for more complicated effects, you don't always want to create a text layer. Sometimes you'd rather select the area that the characters should fill—that way, you can draw the characters yourself by filling them with a texture, applying a filter to them, or performing any of the other tasks you can apply to a Photoshop selection. Fortunately, Photoshop 6.0 provides a mode that creates a selection from the text you enter instead of creating a text layer.

Create a new document in Photoshop, just like the last one (6 inches wide, 4 inches tall, 300 dpi). Select the text tool. In the toolbar at the top of the screen, click the outlined **T** (this activates the mode we described above). Now drag to create a text region.

Your window should suddenly fill with an attractive pink color. The color is a warning—once you stop editing the text, you'll have a Photoshop selection, not a text layer. Set the font to Times New Roman, the style to bold, the size to 100 points, and the vertical scale to 90 percent. Type the word *groovy* in all caps. You might have to widen the text box slightly to make it fit.



Sadly, not very groovy. We'll have to work on that.

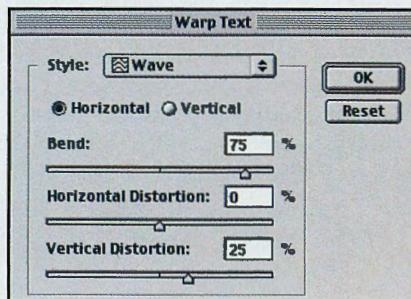


The outlined **T** in this toolbar lets you create a selection instead of a text layer.

2 Get Warped

In the toolbar, click the icon of a **T** with a curved arrow beneath it. This brings up the Warp Text dialog box, which can make your text flow in unusual ways. Choose Wave from the Style pop-up menu, and set Bend to 75 percent, Horizontal Distortion to 0, and Vertical Distortion to 25 percent. Click OK, and you'll see that your groovy text has just gotten groovier.

This button will do strange things to your type.



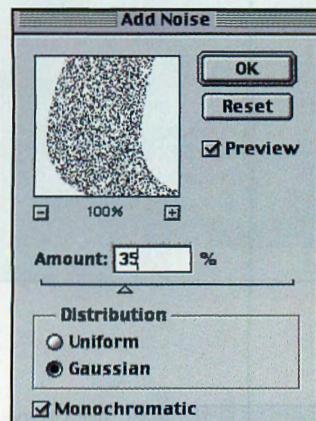
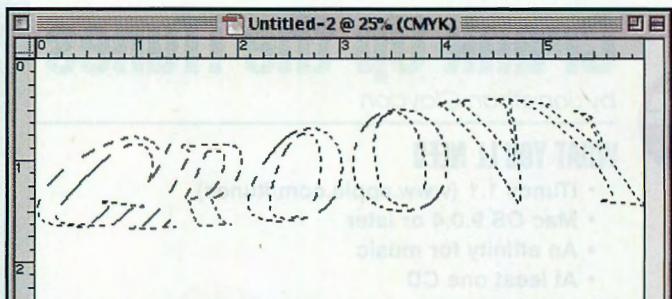
The Warp Text dialog box can be abused, but if you keep your impulses under control, you can add a bit of flair to your text.

3 Add Some Noise

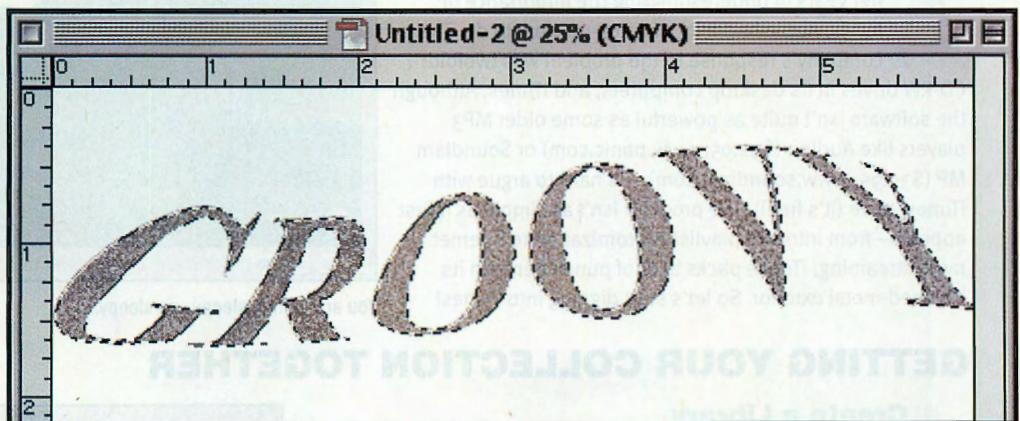
Click the check mark in the toolbar, and Photoshop will create a selection based on your text outline. Now that you have an outline to work with, it's easy to make the text look a bit more unusual.

To get started, fill the text with noise. Choose Add Noise from the Filter menu. Fill the text with 35 percent Monochromatic, Gaussian noise.

Now that you have a selection, you can apply filters to it!



Start by adding some noise.

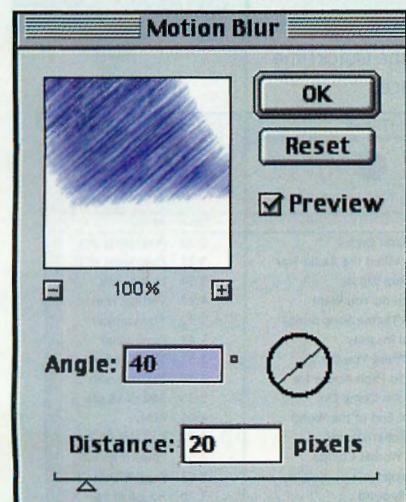
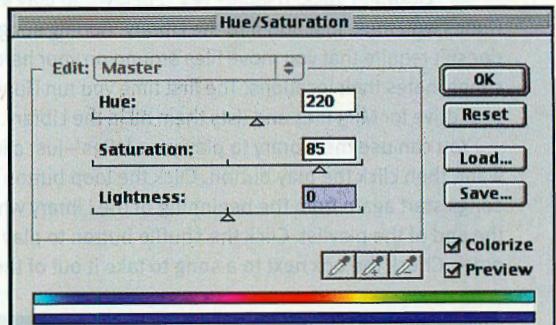


Ah, now the text is a bit more than just a selection!

4 Colorize It

Grayscale noise isn't terribly fun to look at—so change it to a deep, rich purple. Choose Hue/Saturation from the Adjust submenu of the Image menu to bring up the Hue/Saturation dialog box. Click the Colorize box to change the color of the noise completely instead of simply shifting its hue. Set Hue to 220 and Saturation to 85, then click OK.

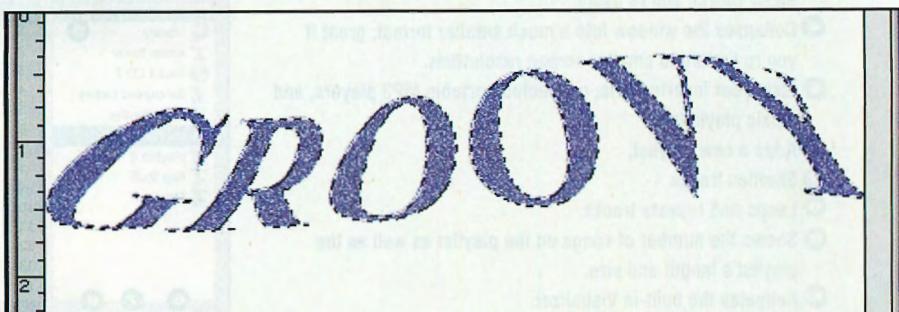
Adjust Hue and Saturation to modify that square grayscale.



Applying a motion blur to noise is a great way to get a striated texture.

5 Try On Some Denim

As a finishing touch to give this whole thing a bit of seventies flair, make the whole thing look like denim. Choose Motion Blur from the Blur submenu of the Filters menu, and apply a 20-pixel blur at an angle of 40 degrees. To emphasize the striations that will substitute for the weave of denim, choose Sharpen More from the Sharpen submenu of the Filters menu.



Groovy, man, groovy!

Crank Up the iTunes

by Jonathan Clayton

EASY

WHAT YOU'LL NEED

- iTunes 1.1 (www.apple.com/itunes)
- Mac OS 9.0.4 or later
- An affinity for music
- At least one CD

After years of underestimating the importance of MP3s, Apple had a lot of catch-up work to do. The company's response to the problem was twofold: CD-RW drives in its desktop computers, and iTunes. Although the software isn't quite as powerful as some older MP3 players like Audion (\$32.95, www.panic.com) or SoundJam MP (\$39.95, www.soundjam.com), it's hard to argue with iTunes' price (it's free!). The program isn't as simple as it first appears—from intricate playlist customization to Internet radio streaming, iTunes packs a lot of punch beneath its brushed-metal exterior. So let's start digging into iTunes!



You are getting sleepy...so sleepy...

GETTING YOUR COLLECTION TOGETHER

1 Create a Library

The iTunes Library is the core of your music collection (see "Lickable? Yuck. Usable? Yes.", below). To play an MP3 file from iTunes, you must first add it to the Library. Adding songs to your Library doesn't require that you move files around on your hard drive—iTunes simply notes their locations. The first time you run iTunes, it searches your drive for MP3 files and lists them all in the Library.

You can use the Library to play your MP3s—just click the song you want, then click the play button. Click the loop button to make the songs start again from the beginning of the Library when you come to the end of the playlist. Click the shuffle button to play songs in random order. Check the box next to a song to take it out of the playlist.



Your Library provides a listing of every MP3 file iTunes knows about.

Lickable? Yuck. Usable? Yes.

iTunes features an interface that's an odd blend of Aqua, the traditional (pre-X) Mac OS, and the QuickTime MoviePlayer. Since that makes many of the controls difficult to fathom, here's a quick reference.

- ① Controls audio (play, skip forward or back a track, and volume).
- ② Searches for any song contained in the present source.
- ③ The function of this button changes depending upon which audio source you're using.
- ④ Collapses the window into a much smaller format; great if you're limited to smaller screen resolutions.
- ⑤ Lists your inserted CDs, connected portable MP3 players, and music playlists.
- ⑥ Adds a new playlist.
- ⑦ Shuffles tracks.
- ⑧ Loops and repeats tracks.
- ⑨ Shows the number of songs on the playlist as well as the playlist's length and size.
- ⑩ Activates the built-in Visualizer.
- ⑪ Ejects CDs from the drive.



2 Rip It Up

Now that you've organized the MP3 files on your hard drive, it's time to rip some more from your CD collection. Stick a CD into the drive (one of your own, please—ripping MP3s from other people's CDs is just as illegal as pirating software), then wait for it to appear in the Source panel. Click CD Source (or the name of the CD, if you're connected to the Net) to see a listing of tracks on that CD. To import individual tracks, drag them into the Library. To import every track on the CD, click the Import button in the upper-right corner of the window.

If you want to edit the quality level at which your Mac saves songs, choose Preferences from the Edit menu and click the Import tab. Remember that the higher quality you set for the imported MP3s, the longer it will take your Mac to convert them.

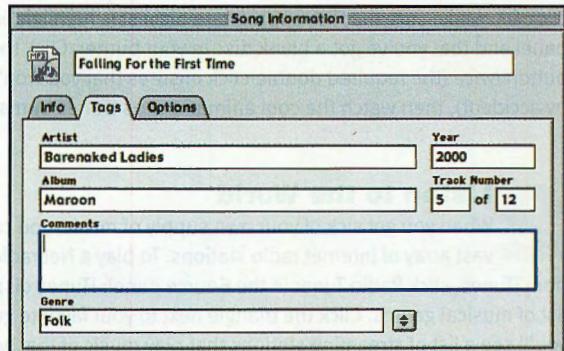


It's much easier to manage a list of imported MP3s than to handle a giant stack of CDs.

3 Tag the Songs

Names are important in dealing with a music collection—a gigantic CD collection of unlabeled mystery discs is utterly useless (unless you like being surprised every time you listen to music). To avoid that situation, iTunes lets you tag your MP3 files with the artist, title, album, and other information. This is easy if you're connected to the Internet: iTunes will look up the song from an Internet database. If you connect after importing the tracks, just choose Get CD Track Name from the Advanced menu. If you're not connected (or if your CD is too obscure to appear in the database), you'll have to fill in the information yourself.

To fill in the missing information for a particular MP3 file, highlight the song in the Library. Press Command-I (or choose Get Info from the File menu), then click Tags in the dialog box that appears. Fill in the artist and title fields first; the rest is up to you. Enter the names precisely and carefully, since iTunes will treat even slight variations—say, "Offspring" and "The Offspring"—as entirely different bands.



If you don't label all your MP3s, you'll regret it when your collection gets really large.

4 Set Up Playlists

While you could easily play your songs directly from the Library, playlists organize things much more efficiently. A playlist is like a miniature Library containing songs you've grouped for quick reference. You can use playlists like virtual CDs, or (if you've got a CD burner) you can burn playlists to real-world CDs.

To create a new playlist, click the button in the window's lower-left corner (it looks like a plus sign [+] next to a scroll with a note on it). A new playlist will appear in the Source panel. Type the name you want to give your new playlist, then click Library. To add songs, drag them from the Library onto your playlist's icon.

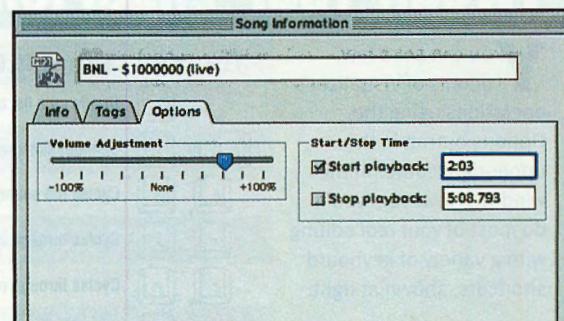


While you can give your playlists any monikers you like, try to keep them sensible, or you'll find yourself wading through vague names like "Stuff" and "Good Music."

5 Adjust the Volume

If you create a playlist from a variety of sources, you'll probably find yourself wincing when louder tracks start to play and straining to hear fainter songs. The problem is that different CDs are recorded at different levels, so when you combine tracks from a variety of CDs, you end up with an inconsistent volume level.

Fortunately, you can correct this problem with ease in iTunes. Click the tune you want to adjust, then press Command-I (or choose Get Info from the File menu). Click the Options tab, and you'll see two sets of controls. With the slider on the left, you can tell iTunes to play your selected track at any volume—from absolute silence to twice the original level. The settings on the right let you start the track a bit later or end it a bit earlier than its actual beginning or ending—this can come in handy if you've got a CD from a live performance and are sick of hearing the crowd's cheers or the artist's inane babbling between sets.



If you can barely hear a live set from your favorite band, iTunes can help—and it can get rid of that goon yelling between songs.

ADVANCED ITUNES

Once you've got your music collection on your Mac, it's time to take advantage of iTunes' more advanced features: burning discs, playing the radio, and generating groovy animations.

1 Burn, Baby, Burn

Apple's software team has done a good job of making it easy to burn CDs in iTunes. To master a CD, create a new playlist and add the songs you want on your CD. Watch the time counter at the bottom—CDs can't handle more than 1 hour and 14 minutes of music (don't forget to leave a bit of room for the pauses between tracks). To adjust your burner's settings, choose Preferences from the Edit menu and click the Advanced tab. Set the stream buffer and the time between tracks to your liking, then click OK. Make sure that the appropriate playlist is highlighted in the Source panel and that you've got a blank disc in your burner. Click the big Burn CD button *twice* (the required double-click ensures that you won't burn a disc by accident), then watch the cool animations as iTunes burns away.



The Burn CD button starts you down the long and winding road of burning a CD. Of course, this only works if iTunes supports your drive—check www.apple.com/itunes/compatibility for a list.

2 Listen to the World

When you get sick of your own supply of music, you can listen to a vast array of Internet radio stations. To play a Net radio station from iTunes, click Radio Tuner in the Source panel; iTunes displays a long list of musical genres. Click the triangle next to your favorite genre and you'll see a list of streaming stations that play music of that type. Streams are available at a wide range of bit rates, so try to find one that suits your bandwidth. Play a station that broadcasts at too high a bit rate, and you'll get a lot of stuttering and skips as your machine fails to process information at the necessary rate; play a station with too low a bit rate, and you won't get the quality your connection is capable of delivering.



Whatever your music preference, odds are you'll find a station to match.

3 Get Funky

If your rave music just isn't the same without twisted, strange visual effects, don't worry—Apple has added a tool that should be right up your alley. Click the snowflake button in the lower-right corner to activate Visualizer, which presents psychedelic color animations that follow the beat of your music. You can vary the size of these animations by choosing Small, Medium, Large, or Full Screen from the Visuals menu. Use the Full Screen option to create a cheap but effective screen saver—just adjust the volume to the minimum setting, start a playlist, turn on Visualizer, and press Command-F to have your Mac display flowing, silent patterns.

Don't wander around telling people you can "see the music" or you'll get some strange looks.



Tweak Your Experience

You can set a few details of Visualizer's operations using the Options button in the upper-right corner of the window. However, you'll do most of your *real* editing with a variety of keyboard shortcuts, shown at right.

The Key What It Does

	Brings up a list of basic commands.
	Changes the sound wave to one of ten presets.
	Cycles the sound wave's behavior through the presets supported by Visualizer.
	Cycles through color-morphing methods (how Visualizer moves between theme colors).
	Cycles through color themes (the overall sets of colors that Visualizer can use).
	Calls up a random Visualizer configuration.
	Displays the song currently playing.

Jonathan Claydon has become an official iTunes junkie.

Aye, 'Tis An Offbeat Adventure Of Piratey Proportions!



www.aspyr.com
monkey4.lucasarts.com



Comic Mischief
Suggestive Themes
Use of Tobacco
and Alcohol

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ask us

Get out that hard drive brush—it's time to start scrubbing.

Questions?

Submit technical questions or helpful tips directly via email (askus@macaddict.com) or c/o **MacAddict, 150 North Hill Dr., Brisbane, CA 94005.**

Q I'm considering purchasing a DV camera to use with my iMac. I currently have a 10GB hard drive in my computer and was curious about how much footage I can store. Is my drive big enough or should I get a bigger one?

A While you can crank out high-quality video productions with a FireWire-equipped iMac and an entry-level DV camera, you're going to run into the limitations of your hardware. One of the biggest is hard drive space. Since you can edit video on a computer in a nonlinear way (you always have access to the entire film, not just the bit you're looking at), the computer must hold *all* of the source footage. When you're editing a film, you transfer the clips from your camera to the computer (probably using your FireWire port), edit them, and then transfer them back to the camera or to a DV-capable VCR. This means you need a hard drive large enough to hold every piece of footage you intend to use, along with any rendered effects and transition footage you create. In reality, you may need up to twice the storage space that the footage alone would require.

To figure out how much space you'll need, keep in mind that DV footage (including both audio and video streams) occupies an average of 200MB for 1 minute of footage or about 1GB for 5 minutes. This means a 10GB drive would hold about 45 to 50 minutes of DV footage.

If you're only making small videos for the Web or video collages of the kids, you have plenty of space. However, if you plan to create longer projects or save lots of footage, you may want to consider replacing the internal drive with a larger drive—or better yet, investing in a large external FireWire hard drive to store your captured footage. Any way you slice it, DV takes lots of drive space—but hard drives get cheaper and larger with each passing day.



PHOTOGRAPH COURTESY OF APPLE COMPUTER, INC.

If you've got a setup like this, you're probably not having problems—otherwise, you may want to look into buying more hard disk space.

Q My family uses the modem on our iMac to access the Internet, and our Call Waiting feature is constantly disconnecting us. I can disable Call Waiting with the special numbers my phone company gave me, but there has to be a better way. I'd rather not have to get a second phone line.

A A couple of wonderful software solutions will suit your needs perfectly. The Internet Call Manager (www.internetcallmanager.com) has a Mac client available for its \$5.95 monthly service, which notifies you on the computer screen when a call is coming through. Internet Call Manager then gives you options for dealing with the call—you can ignore it, forward it to another line, or even have the software play a prerecorded message. A free demo is available. Another player in the Mac-compatible call waiting service arena is Pagoo (www.pagoo.com), which provides a similar service for as low as \$4.95 a month, with a 30-day free trial. Either one of these services should keep you from missing calls.

Q With fluctuating memory prices at a current low, I am shopping for RAM for my G4. The problem is, I'm not sure what kind to buy—PC100 or PC133. Does it matter? What are the differences?

A With memory prices at historic lows (at least as of press time), you might start feeling left out if you don't have at least a gig of RAM in your computer. This brings up the age-old question: "What kind of RAM do I buy for my computer?" The endless variations and terminology associated with RAM could fill a book, but thankfully computer makers (including Apple) have started to standardize on a few types.

The two most common types of RAM you see these days go by the names PC100 and PC133. Both types follow guidelines laid down by Intel, enabling RAM manufacturers to create memory that works correctly across most computer platforms. The numbers 100 and 133 refer to the speed for which the RAM is designed (100MHz and 133MHz, respectively). PC133 isn't necessarily faster than PC100—however, your CPU can access this type of RAM at 133MHz when it's plugged into a computer with a 133MHz bus. The only Apple computers that actually require PC133 memory are the newest G4s (the 466MHz, 533MHz, 667MHz, and 733MHz models). Every other currently shipping Macintosh was designed with PC100 in mind. Since the only difference between the two standards is that PC133 has the capability to run faster, you can use PC133 in any machine that will take PC100, but not vice versa.



Call Manager's not shy about its Mac support!

Given this choice, which type should you buy? Whenever possible, go for PC133 RAM. It will work without problems in any computer that originally used PC100, and you can mix PC100 and PC133 as you see fit in older computers. However, if you buy PC133, there's a much better chance that you can use your new memory in future Macs. This way you won't lose your investment in memory if you upgrade to a newer machine that requires PC133, such as a new G4.

Q My father and I purchased a new Blue Dalmation iMac and have started burning our own CDs. Unfortunately, my mother's old Performa can't read the CDs we create. Will our burned CDs only work on the computer we used to create them? If so, this is crazy. What could we be doing wrong?

A Yes, you can create CDs that you can use on *all* computers, new and old—but you have to watch out for a few compatibility issues. You've run into one of the trickier problems—it makes a big difference what sort of media you stick into your drive. If you want to burn CDs other people can use, *always* choose CD-R instead of CD-RW. CD-RW is useful in some instances (for backups, say), but for sharing data CD-R is the way to go. Even though it might seem like the rewritable CD-RW would always be a better option than

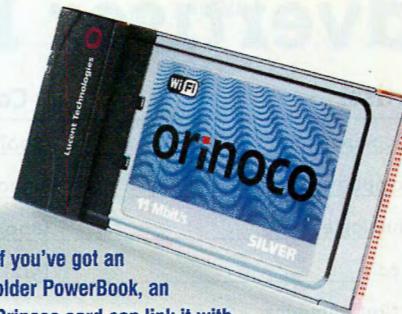
the write-once-and-it's-finished CD-R, the latter medium has two key advantages. One is price—blank CD-R disks are very, very cheap, so you're often better off writing many CD-R disks than a single CD-RW.

There's a much bigger issue, though, and you've just walked right into it. CD-RW disks are physically different from CD-R disks, and older CD drives can't read them—so burning a CD-RW disk for your friends won't make you a popular guy. As long as you stick with CD-R disks, you shouldn't have any problems.

If you use Toast to create your CDs, you might run into a similar effect. When you're burning a disk for distribution, use the Write Disk option instead of the Write Session option, because older CD drives have trouble with multisession disks as well.

Q My school has implemented a way-cool AirPort network. The teachers with iBooks really love it, but I have a PowerBook G3 that is not AirPort ready. What are my options? Can I make my PowerBook wireless?

A With the wireless revolution in full swing, the elimination of physical wiring seems like the next logical step. Of course, that means you'll have to figure out some way of connecting your Mac to the increasingly pervasive AirPort networks. Any



If you've got an older PowerBook, an Orinoco card can link it with an AirPort network.

PHOTOGRAPH COURTESY OF AGERE SYSTEMS

FireWire PowerBook G3, PowerBook G4, or iBook computer is AirPort ready. If you had one of these machines, you would just need an AirPort card ([\\$99](http://www.apple.com/airport)). Unfortunately, you've got an older machine, so you'll have to use your PCMCIA slot.

Since the actual AirPort card is nothing but a standard PCMCIA card with a special plug that accepts an antenna, you might think you could just jam in an AirPort card and get going. Unfortunately, although the AirPort card looks and acts like a PCMCIA card, it doesn't work in a standard PCMCIA slot. You'll need a third-party wireless PC Card—the most popular version is the Orinoco Wireless LAN PC Card (www.orinocowireless.com). This card (previously called the WaveLAN) provides complete 802.11b (AirPort's official, if slightly dull and bureaucratic, name) compatibility with Apple's Base Station. Adding this PC Card to your PowerBook will put you in the wireless Internet fast lane.

Buz Zoller is a technology support specialist for a school district in Texas.

Trashy Networks

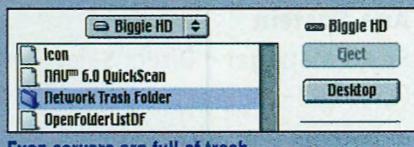
Q I've discovered an invisible folder on my hard drive that makes me a little suspicious. It is called the Network Trash Folder and appears on each of my drive partitions. What is this folder and what does it do?

A You've come across one of the secrets that lets the Finder integrate mounted AppleShare volumes so seamlessly that they appear to behave exactly like hard drives. When you mount a server volume (a drive shared either via personal file sharing or via a dedicated AppleShare server), the server software must set up certain parameters

that allow you to use the volume. The server must know, for example, what it is supposed to do with files that you, the client, put in the Trash. It can't put them into the Trash on *your* computer—if it did, it would have to copy the file to your drive first! Instead, the server creates an invisible Network Trash Folder at the root level of the shared volume, as well as a separate folder inside the Network Trash Folder for each person logged in to the computer. When you empty your Trash, the server also empties your individual Network Trash Folder.

This sounds great, but what if your computer crashes before you have a chance to disconnect properly from the server, or your iBook falls asleep and disconnects from the server? In these situations, your Network Trash Folder is still there on the server, but now it's full and can't easily be emptied! In fact, the only way an administrator could

delete the folder at this point would be to use a utility such as ResEdit to make the folder visible, then manually delete the items. Problems with the Network Trash Folder can cause Chooser lockups, slow logins (especially with Macintosh Manager), and server crashes. Any good AppleShare server admin knows that part of good server maintenance is to make sure the Network Trash Folder does not get too big. We've seen Network Trash Folders balloon to thousands of empty folders. If you maintain any AppleShare servers, you'll want the wonderful free utility Ashare Helper (www.ozemail.com.au/~dbakkers/ashare_helper), which will make sure Network Trash never contains items more than 24 hours old.



Even servers are full of trash.



This unassuming little icon can save you a lot of work if you want to run an AppleShare server.

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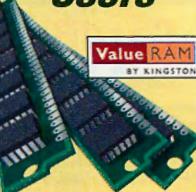
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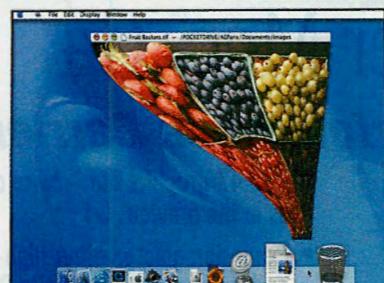
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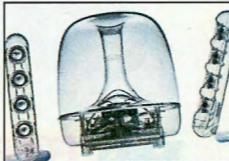
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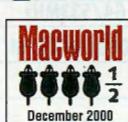


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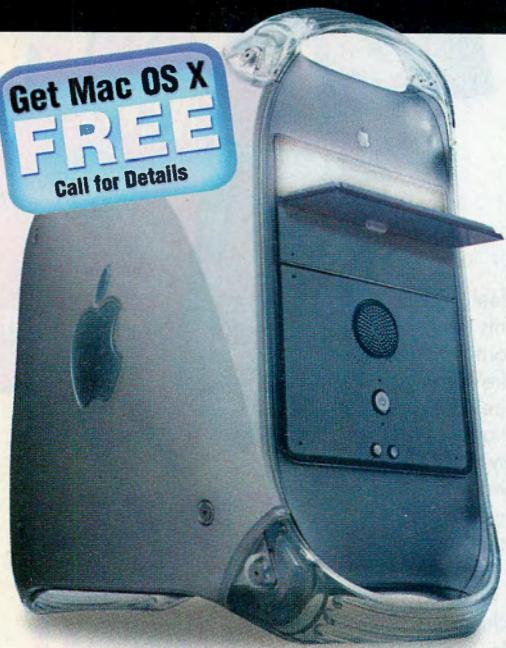
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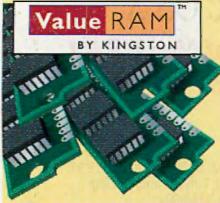
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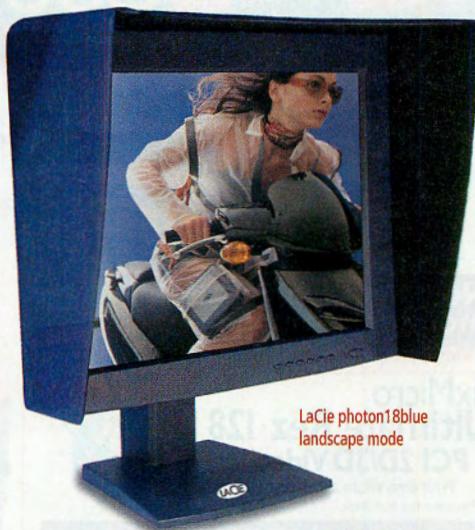
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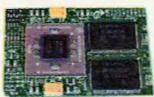
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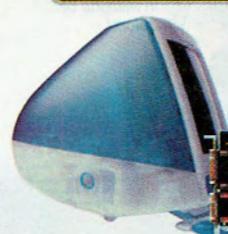
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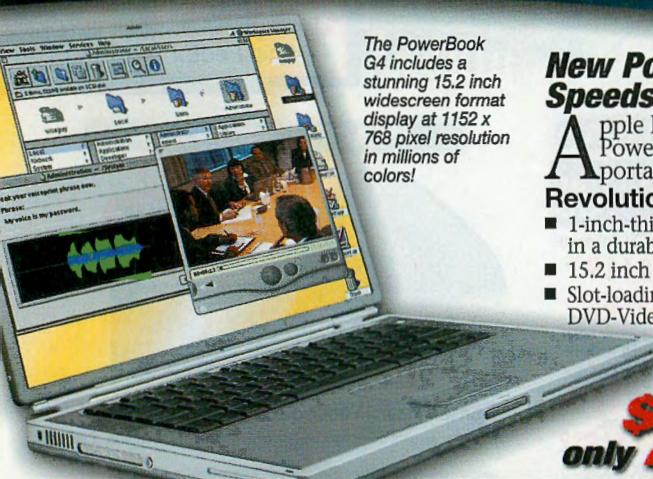


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Hard Drive	20GB
CD-RW	YES
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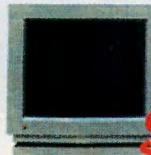


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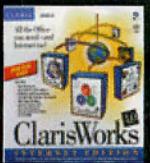


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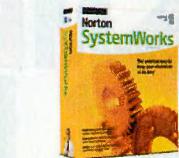




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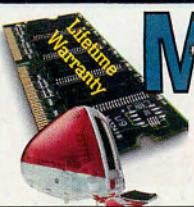
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Apple cLothing Patent

Apple's legal department has apparently been busier than ever. Recently, while digging through the U.S. Patent Office's Web site, we came across this document. Needless to say, the

Wow, we hope these aren't lickable.

(12) **United States Patent**

Eppla et al.

(54) **Multiple-Theme Human Decorative Design Capability**

(75) **Inventor:** Ret Eppla, of Sunnyvale, CA (US)

(73) **Assignee:** Apple, Cupertino, CA (US)

(*) **Notice:** Under 35 U.S.C. 154(b), the term of this patent shall be extended for 0 days.

(21) **Appl. No.:** 09/343, 932

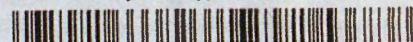
(22) **Filed:** Mar 20, 2001

(41) **Patent No: US 34,123,544**

(45) **Date of Patent: Mar 25, 2001**

ABSTRACT

Systems and methods for providing a user with increased flexibility and control over his or her personal appearance. Sets of objects can be placed over skin ("worn") and grouped into themes to provide the user with a distinct overall personal appearance. Collectively, these themes ("outfits" or "cLothing") allow users to apply the same sort of control over their personal appearance that previous patents allow over their computer's or cellular phone's appearance.



US0034123544

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Fig.1
Indigo Sweatsuit



Fig.2
Flower Power Sundress



Fig.3
Graphite Business Suit



Fig.4
Blue Dalmatian Cocktail Dress

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- Save frequently, just in case you...~!!@#\$~@! NO CARRIER.

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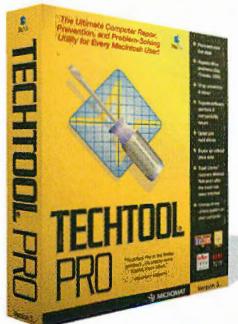
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